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**NASA EPSCoR Nebraska Preparation Grant:
Year 1**

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et al.

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UNOAI Report 99-2

NASA EPSCoR Nebraska Preparation Grant: Year 1 Proposal

Request for Proposals

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National General Aviation Roadmap for a Small Aircraft Transportation System (SATS)

Mission

The National Aeronautics and Space Administration (NASA), Federal Aviation Administration, as well as state, industry, and academia partners have joined forces to pursue the NASA National General Aviation Roadmap leading to a Small Aircraft Transportation System (SATS). This long-term strategic undertaking has a goal to bring next-generation technologies and improve air access to small communities. The envisioned outcome is to improve travel between remote communities and transportation centers in urban areas by utilizing a new generation of single-pilot lightplanes for personal and business transportation between the nation's 5,400 public use general aviation airports. Current NASA investments in aircraft technologies are enabling industry to bring affordable, safe, and easy-to-use features to the marketplace, including "Highway in the Sky" glass cockpit operating capabilities, affordable crashworthy composite airframes, more efficient IFR flight training, and revolutionary engines. To facilitate this initiative, a comprehensive upgrade of public infrastructure must be planned, coordinated, and implemented within the framework of the national air transportation system. State partnerships are proposed to coordinate research support in key public infrastructure areas. Ultimately, SATS may permit more than tripling aviation system throughput capacity by tapping the under-utilized general aviation facilities to achieve the national goal of doorstep-to-destination travel at four times the speed of highways for the nation's suburban, rural, and remote communities.

SATS-Nebraska Implementation Template

NASA, the U.S. Department of Transportation/Federal Aviation Administration, industry stakeholders, and academia have joined forces to pursue the NASA National General Aviation Roadmap leading to a Small Aircraft Transportation System (SATS). This strategic undertaking has a 25-year goal to improve air access and bring next-generation technologies to small communities. The envisioned outcome is to improve travel between remote communities and transportation centers in urban areas by utilizing the nation's 5,400 public-use general aviation airports. To facilitate this initiative, SATS stakeholders must plan, coordinate, and implement a comprehensive upgrade of public infrastructure within the framework of the national air transportation system. Ultimately, SATS may permit tripling aviation system throughput capacity by tapping the under-utilized airspace and general aviation facilities. The SATS investments, which begin in FY 2001, are designed to support the national goal of doorstep-to-destination travel at four times the speed of highways for the nation's suburban, rural, and remote communities.

NASA NEBRASKA EPSCoR PREPARATION GRANT: YEAR I**Submitted by the Board of Regents of the University of Nebraska****University of Nebraska at Omaha****for the UNO Aviation Institute**

The NASA EPSCoR Preparation Grant for Nebraska will provide meaningful opportunities to this state, as it will enable researchers to solidify ties to key NASA centers where relationships have already been established in anticipation of this announcement. Nebraska will utilize this funding to strengthen collaborations with NASA Center personnel and to lay the foundation for future research activities. Nebraska is prepared to meet each provision of the RFP provided that funding is available to meet the necessary timeline for this first year. Administrative costs will be well below the threshold set by the NASA Program Manager. All overhead costs will be waived and directly invested in the grant. Outlined herein, reviewers will discover a coordinated and well-conceived plan which has research sponsors from NASA Langley Research Center (LaRC) and NASA John H. Glenn Research Center (GRC) at Lewis Field.

This proposal incorporates several key features consistent with the purpose of this program. First, it creates a new research cluster as a result of a call for research presented by a key NASA LaRC research program manager. Second, it includes an augmentation of a NASA EPSCoR mini-cluster at the request and sponsorship of a NASA GRC researcher. Third, it sets aside seed funds that will augment, with first priority, current NASA Nebraska EPSCoR and Space Grant research projects with existing ties to NASA Center/Enterprise research personnel. In order to complement and sustain the significance of resulting research, the proposal includes provisions to generate meaningful public outreach and education from the preparation grant key research cluster. This outreach, consistent with NASA directives and the NASA

Nebraska EPSCoR Program objectives, will focus on the under-represented Native American population.

This proposal represents a significant opportunity for Nebraska to expand its successful and example-setting NASA EPSCoR program to an even greater level of research outcomes. The NASA EPSCoR Preparation Grant will be managed by the NASA Nebraska EPSCoR Director, Dr. Brent Bowen. The same team which administers Nebraska's NASA Space Grant and EPSCoR programs will oversee the day-to-day operation of grant activities. This team has served NASA well and has been cited as a model program. Additionally, an advisory board consisting of voting representatives from all affiliate and partner organizations will regularly review grant progress and direction. The host institution will provide additional administrative oversight and program evaluation through established review mechanisms. The Nebraska NASA Space Grant and EPSCoR Advisory Board and the Nebraska EPSCoR Committee will evaluate and measure the program's contributions to the State of Nebraska through annual progress reports.

I. Research Cluster: Small Aircraft Transportation System/Nebraska Implementation Template (SATS-NIT). NASA LaRC Sponsor: Dr. Bruce Holmes, Manager, NASA General Aviation Program Office (GAPO)

A. Overview

NASA, the U.S. Department of Transportation/Federal Aviation Administration, industry stakeholders, and academia have joined forces to pursue the NASA National General Aviation Roadmap leading to a Small Aircraft Transportation System (SATS). This strategic undertaking has a 25-year goal to improve air access and bring next-generation technologies to small communities. The envisioned outcome is to improve travel between remote communities and transportation centers in urban areas by utilizing the nation's 5,400 public-use general aviation airports. To facilitate this

initiative, SATS stakeholders must plan, coordinate, and implement a comprehensive upgrade of public infrastructure within the framework of the national air transportation system. Ultimately, SATS may permit tripling aviation system throughput capacity by tapping the under-utilized airspace and general aviation facilities. The SATS investments, which begin in FY 2001, are designed to support the national goal of doorstep-to-destination travel at four times the speed of highways for the nation's suburban, rural, and remote communities.

B. Public Infrastructure Systems

The NASA Nebraska EPSCoR Program has proposed to deliver research support in key public infrastructure areas in coordination with the General Aviation Program Office at NASA LaRC. The scope of the SATS vision is of large scale. SATS will require comprehensive systems integration and coordinated strategies at all levels of government and will encompass technical and infrastructure challenges at all levels of the air transport network. To achieve its stated strategic objective, NASA LaRC has called upon the NASA Nebraska EPSCoR Program to provide research expertise in this vital area of the National General Aviation Roadmap. The NASA General Aviation Program Office does not have the fiscal and personnel resources available to sustain clusters of proposed research in all 50 states. NASA, therefore, is seeking partnerships with all stakeholders to leverage scarce resources toward the SATS objectives. The NASA Nebraska EPSCoR Program is well poised to fund and deliver research outcomes for the benefit of this approved NASA program. We have assembled a multi-disciplinary team of experienced researchers and academicians, representing aviation administration, aeronautics, public policy, political science, public finance and economics, public infrastructure, civil engineering, and public management systems. Furthermore, this cluster originates from one of the few academic programs in the United States that combines aviation science and administration with public management and that has established a record of collaborative research. The

Nebraska SATS-NIT cluster will focus on state/local elements using Nebraska as a case example.

The SATS concept meets key EPSCoR tenets of involving industry in research partnerships with the states, NASA, and other stakeholder partners. In the SATS research area of public infrastructure systems (PIS), industry, non-profit organizations, and other stakeholders will participate in grant planning, research, education, outreach, and implementation. The SATS Steering Group of the National Research Council/Transportation Research Board, of which Project Director Dr. Bowen is a newly appointed member, will facilitate much of this involvement. The team anticipates that private-sector funding may result on a basis similar to the successful NASA AGATE (Advanced General Aviation Transport Experiment) Partnership. Additionally, SATS-NIT will be a key endeavor, testing the new research relationship resulting from NASA Administrator Goldin's and FAA Administrator Garvey's memorandum of understanding for cooperative research signed in November 1998. Additionally, Dr. Joseph Heyman, Director of the Technology Applications Group at LaRC, has offered to facilitate further industry collaborations serving in an ombudsman-type capacity.

C. Project Development Steps

Dr. Elizabeth Ward, NASA LaRC EPSCoR Fellow, facilitated meetings for the Nebraska Project Director with several research directors at NASA Langley. These meetings uncovered a NASA research initiative within aeronautics, SATS, that is a key provision of the National General Aviation Roadmap for the future. SATS does not have funding to fully address the specific area of Public Infrastructure Systems. The NASA GAPO welcomes the opportunity to leverage NASA HQ funds and agrees to offer match through personnel and other areas where able. The result is a research cluster that is conceptualized by, and has a NASA program leader, Dr. Bruce Holmes. This represents an operational change for NASA Nebraska EPSCoR. Instead of having a traditional open call for proposals and trying to serve NASA's mission, we are recruiting

specialized expertise within our state to address this specific NASA research need and are co-authoring this proposal with our Center mentors. Acknowledgments are due to Dr. Julius Dasch, Dr. Ward, and Dr. Heyman, who provided insight and endorsed this approach.

D. Project Scope and Management

As previously acknowledged, SATS will require funding and support from numerous channels which exceed the capacity of this grant. NASA's Dr. Holmes has called upon Nebraska to meet his research support needs in areas related to public infrastructure systems for SATS technology development and deployment in Nebraska and neighboring regional areas, as this state and region have representative characteristics from which to initiate study. We assume that other resources will be sought to address other key elements of the SATS concept.

Dr. Holmes has initiated a National Research Council SATS Committee to produce a report on the public sector requirements and merits of SATS. This committee will identify and assist in the facilitation of other SATS elements and benefit from the research outcomes provided by the NASA Nebraska EPSCoR Preparation Grant. For Year I, the SATS-NIT cluster proposes initial research planning in the following areas of systemic need: Systemic Change and Innovation in Public Infrastructure; Public Finance and Economics; and State and Local Airport Planning for SATS Implementation. Each area, or "sub-cluster," will have an identified faculty research lead who will report to the principal investigator, Dr. Bowen. Additionally, three ancillary components will provide necessary value-added support to the sub clusters. Dr. Bowen will coordinate all activities with LaRC in addition to directing the elements of research. A statewide transportation coordinating group, which includes the DOT-funded Mid-America Transportation Center, the Nebraska Safety Center and others, will be consulted in relevant areas.

This multi-disciplinary research cluster will bridge the gap between NASA's technical expertise and Center-requested expertise in the area of policy research for public change. A variety of systemic change models will be integrated into a methodological approach to achieve NASA's long-term goal. Team meetings, background studies, conceptualization, and other work has already begun. Nebraska is investing substantial resources in pre-planning to maximize this preparation opportunity.

E. Expanded Description of Cluster Research Elements (Lead researcher appears first):

Sub-Cluster 1: Systemic Change and Innovation in Public Infrastructure for Nebraska (Investigators: R. Smith, M. Moussavi, and F. Hansen)

New technologies are currently available for enabling safe, affordable, and convenient small aircraft-based transportation in the U.S. The question facing NASA and the air transportation community is "How can the small aircraft mode be made more available throughout the Nation's suburban, rural, and remote communities?" Quality answers to this question require research in multiple policy, technological, market, and economic areas.

The Systemic Change and Innovation sub-cluster will focus on two areas. One will entail the development of a formal systems engineering model for SATS implementation in the states with Nebraska as an example. While it is possible for experts to understand portions of the SATS project, synthesizing these so as to account for all the interactions without a formal model is impossible. Therefore, a systems engineering process should be used to develop a formal model for SATS. One of the initial activities of the proposed project will be to develop the systems engineering requirements for the SATS model. This would include the identification of the SATS metrics for implementation in the states and the definition of their inter-relationship (cause-and -effect relationship) through a comprehensive literature search. Then a

series of mathematical relationships will be developed (using the formal systems engineering process) to express the cause-and-effect relationship among the SATS metrics. Ultimately these mathematical relationships will be used to develop a formal computer-based systems engineering model for SATS. It is expected that this model will be used as a decision-making tool to test the responses to changing input during the planning and implementation phases of the SATS project.

The second critical set of cluster activities will focus on the examination of SATS as an innovation. As such, the question becomes “What are the important dimensions of the SATS technology, and how might these dimensions affect the adoption of SATS by small airports in the U.S.?” As an innovation, SATS can be studied much like any other innovation. Again, Nebraska provides a particular state example that can serve as a model for this and other questions. The unique qualities of SATS can be identified (e.g., capabilities, knowledge requirements, cost), early adopters of SATS can be interviewed about their selection of the technology and perceived benefits, and past adoptions of SATS-related technology can be plotted. Future adoptions can be projected based on past adoptions of related and similar technologies. The projected rate of adoption can be compared to the Roadmap goal to *“Enable doorstep-to-destination travel at four times the speed of highways to 25% of the Nation’s suburban, rural, and remote communities in 10 years and more than 90% in 25 years.”*

The utilization of an innovation diffusion perspective as one of several lines of inquiry for the SATS research can yield insights that will connect to the technological, economic, and political/policy dimensions of the research project. Furthermore, it provides a multi-disciplinary knowledge base that can inform and guide the development of projections about the rates at which the SATS technology may be adopted in the states during the coming decades. This, in turn, can guide local planning, marketing, and related efforts. The difference between projected adoptions and the Strategic Roadmap would guide follow-on research activities in other project

clusters. For example, if cost is a significant adoption factor, economic analysis and tax research could focus on approaches to overcoming such barriers. If “knowledge requirements” are significant adoption factors, research could focus on the capabilities of the user community.

This sub-cluster will have two outcomes during the first year. The first outcome will include the development of the formal Systems Engineering requirements for the SATS model through a comprehensive literature search. The second outcome will be an analysis of alternative SATS target population levels, including the trade-off between various numbers of airports targeted for SATS adoption, the market areas served by these airports, and the speed and cost of innovation diffusion. This analysis will include Nebraska, the Dakotas, and Montana. The results could be used as the foundation for a detailed design for the SATS innovation diffusion research to be carried out in future years. These areas will consequently provide guidance toward the incorporation of SATS into state aviation system plans.

**Sub-Cluster 2: Public Finance and Economics for SATS Planning in the States
(Investigators: J. Bartle, D. Hinton, and R. Swayze)**

A federal initiative to develop SATS would require a series of national “templates” to provide local airports the standards, guidance, and incentive to build and properly maintain these facilities. While focused on the Nebraska case example, these templates would serve as national guidance for state aviation system planning, regional intermodal transportation system planning, and airport master planning for SATS technologies and capabilities. These templates must also provide for the funding mechanisms for SATS-NIT deployment. A variety of financing tools are possible, such as loans and guarantees, apportioned and discretionary grants, passenger facility charges and other local fees, and incentives for local contributions. The goal is not simply to build the system nor to make it financially viable over the long term, but to match costs and benefits to the various affected parties in order to: 1) ensure equity

among users and taxpayers; 2) plan for appropriate facility size and quality, leading to longer facility lives, reduced congestion, and faster travel; 3) create the appropriate incentives to enhance safety and to reduce pollution, noise, and congestion; and 4) stimulate the appropriate technology at the lowest long-term cost to society.

Current federal financing tools will not achieve these objectives. It is apparent that infrastructure grants leak into operating expenses and local tax reductions. The current grant and fee structure is a “one-size-fits-all” system which over-subsidizes certain airports and activities and under-subsidizes others. Given the wide variety of airports in rural, suburban, and ex-urban locations, it is unlikely that the objectives of SATS would be served by current financial approaches. Further, because the benefits of economic growth are highly location-specific, local economic development clearly requires the development of a more customized financing system. Such a customized approach requires the administrative capacity to weigh costs and benefits for each local project.

This sub-cluster will investigate the various financial options available to the federal government to build the SATS infrastructure in a manner that is both financially and administratively sustainable in the long term and is palatable to the states/local beneficiaries. Second, it will develop a general conceptual framework that could be applied to specific airport projects to quantify both the direct and indirect benefits and costs to various stakeholders, such as time saved, land values, income growth, safety, air pollution, and noise. This framework will also incorporate critical methodological issues such as the inter-temporal realization of costs and benefits, distributional concerns, and multiplier effects. This will develop the capacity on the part of federal and local officials to judge the propriety of projects, and to develop the necessary customized financial and administrative tools to implement them.

Sub-Cluster 3: State and Local Airport Planning for SATS Implementation
(Investigators: H. Lehrer, T. Cullan, F. Hansen, and R. Swayze)

The approach of this sub-cluster is two-fold and encompasses goals in the short term as well as in the long term. In the short term, it is crucial to develop a state-wide conceptual framework within which to develop the possible impact of the SATS airport program on the National Plan of Integrated Airport System (NPIAS) in a state such as Nebraska. Major portions of this conceptual framework will be determined by stakeholders who will be affected by the implementation and evaluation of SATS in a NPIAS setting. Additionally, a need exists to justify the integration of a SATS airport approach (advanced navigation and all-weather utilization) within the state airport master planning scheme. Effecting such a comprehensive change in public infrastructure will require coordination at the grassroots level. It will also require evaluation and change with state and local entities that would be identified in the developmental phase period. To further this change, we envision the establishment of not only a Nebraska SATS Airport Compliance and Readiness Committee for the state, but laying the framework for a possible future multi-state consortia. This ad hoc committee would determine interest in SATS, select possible candidate airports, and begin to modify existing state airport system plans to embrace SATS Roadmap Goals. As a result, change to all targeted airport master plans will be necessitated.

Existing general aviation airports will play an integral part in the airport compliance strategy of SATS. Before any effort can proceed to move general aviation airports, their managers, and their governing boards toward a new, upgraded system and style of operation, it will be critical to establish minimum airport standards for SATS facilities. These standards must be developed in partnership with the state and airport owners to define SATS capabilities tailored both to current national and local requirements. The national requirements establish standards for accessibility, safety, and system performance within the context of the National Air Transportation System. The local requirements establish the quality of general aviation airport operations that can

positively impact the local implementation and impact of new systems. Consequently, early in the planning phase, we would analyze the degree and extent of compliance with current requirements. Based on this information, we could then develop remedial strategies to assist those airports not meeting current standards with the goal of preparing these airports to move to the new systems.

In the long term, there is a need to develop SATS airports directed at serving the predominantly rural population of a state like Nebraska. Approximately 70% of the entire population of Nebraska is concentrated within 50 miles of the Omaha/Lincoln area. This concentration of population moved the available flights into that area and thus has diminished the air service available to all residents of the state; similar population demographics and air service diminution exist in the states of Kansas, South Dakota, and North Dakota, which makes them natural future project partners. These results have literally removed vast portions of the state from the air service map. While there are numerous airports in all portions of the state (many with more than sufficient runway length) most of these airports have no air transportation other than widely scattered general aviation service. As the Third Migration Wave (from suburbs to rural America) occurs there will be a growing rural population that will greatly need all-weather aviation access to the nation's transportation system. The possibility of access through increased surface travel is remote, as the current infrastructure is virtually non-existent. Analysis of the local impact of SATS on Nebraska and the possible future multi-state consortium requirements will support the development of SATS-based transportation system demonstration projects. Utilizing a rural demonstration site in Nebraska with this demographic profile would serve to validate the SATS concept and provide a state-based template for future developments.

F. SATS-NIT Cluster Support Components

Three cluster support components provide a mechanism to address crucial areas of support for the SATS-NIT sub-clusters. The public policy research and planning

component will initially provide a framework to respond to the evolving SATS concept over the first year. The area of cited work in public policy research and planning may evolve into a structured sub-cluster in future years. The public outreach and education component will serve key NASA goals of public and educational involvement in all sponsored research. The Native American component expands on an area of Nebraska NASA EPSCoR focus already in progress and supported by NASA HQ. With these areas supporting elements of the entire cluster, substantial leveraging of research outcomes from these component areas will ensure meaningful results which are integrated in a focused approach.

Public Policy Research and Planning (B.J. Reed, B. Bowen, S. Woods, T. Cullan, K. Kane, J. Riggs)

The wide-scale adoption and implementation of SATS technology by the nation's small airports will require the review, modification, and creation of supportive and innovative public policies and management systems in a broad spectrum of government areas at the local, state, federal, and quasi-governmental levels. NASA has charged the NRC SATS Steering Committee with preparation for the study of national-level issues. While SATS-NIT will be limited to a focus on the potential impact of SATS implementation in Nebraska, this research cluster will provide a framework to structure responses to inquiries regarding SATS issues related to the states. All SATS-NIT investigators will be potential participants in this response component. These include areas related to public finance, human resources, administrative systems design, project management, regulatory environment, organizational change, and intergovernmental and public information systems. An environmental scan of current public policy and management frameworks that identifies gaps, as well as existing contradictory or countervailing policies that discourage innovation of new technologies, would be necessary to illuminate potential barriers to SATS adoption. This could include a analysis of stakeholder groups currently involved in the development, implementation, and revision of public policy and organizational management systems, including multi-state

associations, regulatory agencies, legislators, airport administrators, and local government officials where Nebraska could serve as a case example for SATS implementation. Through meta-analysis, literature reviews, and other data collection opportunities, a framework for intervening strategies could result.

Findings from all SATS-NIT sub-clusters would serve in future years as the foundation for the development of tailored planning processes and management systems for widespread SATS implementation consistent with the National General Aviation Roadmap. The combined results of the SATS-NIT cluster would serve to identify additional stakeholders, provide a preliminary scan of the complex environment in which SATS operates, serve as the basis for a comprehensive SWOT (strengths, weaknesses, opportunities and threats) analysis, and serve as the foundation for potential SATS strategic planning, assessment, and implementation issues for local airports, state aeronautics agencies, state transportation planning, and SATS public and education outreach programs.

SATS-NIT Public Outreach and Education (S. Vlasek, M. Schaaf, M. Schaffart, and J. Riggs)

SATS will rely upon all stakeholders to engage local and regional public outreach and education activities to begin the preparation of the public to embrace the SATS concept. While it will be necessary for stakeholder groups to provide this function, the SATS-NIT cluster could provide support through extensions of research activities. In the interest of local and regional coordination for this effort, the SATS-NIT team will provide an Internet-based forum for information dissemination and dialogue. A webmaster assigned to the project has already designed an Internet platform to accomplish this goal (<http://URL>). Additional tasks will include coordination with NASA LaRC education personnel (contact: Dr. Thomas Pinelli), links to stakeholders, maintenance of a SATS discussion board, and posting interim reports, papers, and other items. The team will coordinate this effort with NASA's national public outreach

and educational activities and provide support in aeronautics to the developing National Transportation Library. Additionally, research outcomes will be brought into the collegiate classroom through courses such as Airport Master Planning, Operations, and Independent Research. Students will participate in course projects relating to SATS objectives.

Native American SATS Demonstration (H. Lehrer and T. Cullan)

The development of the SATS airport system is closely related to service to minority populations of Nebraska, primarily those of Native American ancestry. A great portion of Nebraska's Native American population has no access to public transportation of any kind, and the development of an advanced airport system would bring some access to the air transportation system to a greatly under-served part of the state as well as the region. A SATS future demonstration airport or heliport could form a vital link for isolated populations, providing enhanced access to health care, government, and employment opportunities. While there is little expectation in the near term that Native Americans will become a major portion of the air transportation service corps, it is realistic to assume that once opportunities develop the Native American population will be positioned geographically and opportunistically to serve as an entirely new group of aviation professionals. However, this emergence will occur only through outreach and training within the associated school systems. Immediately, outreach could take the form of exposure of reservation children to the airport environment. Research in support of SATS could form the basis for curriculum development, outreach to teachers, and increased public awareness. The first year of SATS research could include several key opportunities involving this diverse population in curriculum enhancement involving transportation.

G. Cluster Time-line

Year 1 (Conceptual Design Phase): The first year of SATS research will focus on further conceptual development in coordination with Dr. Bruce Holmes. A meta-analytic procedure with supporting research designs will be implemented in each of the identified research areas. The team will design a formal systems engineering conceptual framework for SATS planning in Nebraska with a template for regional application. This may require modification to the future work plan and timeline. The team will initiate and foster collaborations between Center personnel and Nebraska researchers through visits to Research Centers by SATS-NIT team members, NetMeetings, and frequent electronic communication.

The proposed project will begin on May 1, 1999. Dr. Holmes will visit UNO for a preliminary planning meeting with all cluster researchers affiliated with the project. A team of SATS-NIT researchers will travel to LaRC to meet with Dr. Holmes and other NASA personnel for an organizational meeting. Other SATS-NIT personnel and fellows will travel to NASA LaRC for up to ten weeks during the summer of 1999 to solidify partnerships, formalize research agendas, and operationalize the concepts emerging from SATS-NIT research. The initial product for Year I will be a series of briefing papers to be submitted to the SATS Steering Committee on August 17, 1999. The papers will include a description of the cluster's meta-analytical approach, literature reviews and summaries of progress for each sub-cluster, a proposed work plan for each sub-cluster area, and other elements as requested by NASA LaRC researchers. Feedback from the SATS Steering Committee will be utilized to identify gaps in the research plan, refine proposed research activities, and set priorities. Year I activities will culminate in a comprehensive research monograph that will summarize each sub-cluster's initial research findings, analyses, and models; make recommendations for future research activities and priorities; identify potential demonstration programs; and propose formal data and planning processes to begin in Year II.

The following is a preliminary plan of activities beyond Year 1 envisioned for this research cluster:

- Year 2:** SATS Steering Committee reviews monograph, makes recommendations; survey of stakeholders conducted, analyzed; demonstration projects designed; model/template development begins
- Years 3-5 :** Phase I SATS demonstration site(s) identified and begin implementation; models and templates completed
- Year 6:** Evaluation of demonstration sites; planning process continues; identify new research priorities based on findings; testing of models and templates begins
- Year 7:** Revise demonstration projects, select new sites
- Year 8:** Phase II SATS demonstration site(s) identified and begin implementation

II. Minicluster: Numerical Modeling of the Combustion of a Moving Isolated Fuel Droplet NASA Sponsor: Dave Urban, Microgravity Combustion Branch Chief, GRC

A team of researchers from the University of Nebraska - Lincoln, led by Dr. George Gogos, will conduct a comprehensive computational study of fuel droplet combustion at atmospheric pressure and zero-gravity ambient conditions under forced convection. Simplified as well as detailed chemical kinetics will be employed in the proposed model. The aim of the research is to provide basic understanding and prediction of combustion of moving droplets. The results will provide insights that can be applied to improve liquid fuel combustion with greater efficiency and safety, and reduce environmentally-adverse effects. In view of the detailed chemical kinetics, substantial complexities and uncertainties are involved in modeling combustion of a moving droplet. Consequently, the proposed computational work must be supported with experimental data. NASA is currently funding experimental research on combustion of a moving droplet through the Microgravity Combustion Science Program. The Principal Investigator of the project (Dr. Vedha Nayagam, National Center for Microgravity Research, NASA Glenn Research

Center) was contacted and welcomed this proposed computational study.

The proposed research will focus on the validated modeling of two key topics: a) Transient combustion of a moving droplet with simplified chemical kinetics; and b) Transient combustion of a moving droplet with detailed chemical kinetics. The first topic will be addressed during the current year, whereas the second one is a longer-term research project. The proposed work is a direct extension of research funded by the NASA Nebraska Space Grant and EPSCoR Programs. Dr. Gogos' studies on droplet combustion at atmospheric pressure include combustion of moving droplets with infinitely fast kinetics as well as with one-step global kinetics. The need to incorporate detailed chemical kinetics in an axisymmetric numerical model of the full Navier-Stokes equations is a challenging problem. The team's previous studies constitute the necessary systematic steps in a long-term research effort to enable us to address this difficulty.

Success in the proposed research will depend on the team's considerable experience combined with recently published studies on comprehensive modeling of hydrocarbon oxidation which employ detailed chemical kinetics. One of Dr. Gogos' doctoral students, supported under the NASA Nebraska Space Grant and EPSCoR Programs, has been working for over two years simulating quasi-steady combustion of a moving droplet with one-step kinetics and will contribute immensely to the timely completion of the proposed work. In addition, experimental data obtained from studies which have been sponsored by NASA (mostly through the Microgravity Combustion Program) are available in the literature and additional data will soon become available. This model will be validated against these experimental data. The team expects to capture the nonlinear interaction between hydrodynamics and detailed chemical kinetics, which will lead to an extremely valuable appropriately-validated model for combustion of a moving fuel droplet.

III. Seed Research Augmentation Program

Seed research funding (travel, fellowships, and enhancement funds) will be available to augment with first priority existing NASA EPSCoR and Space Grant research conducted in direct collaboration with NASA Center/Enterprise research personnel. Criteria for selection will include strength of NASA connection, history of research success, timely prior reporting, and substance of prior outcomes. This evaluation will be made by the Nebraska Space Grant and EPSCoR office and reported annually to the Advisory Board.

IV. Budget Narrative

1. Direct Labor: Includes both administrative and research effort for all UNO-based personnel. Bowen, and Vlasek will commit effort to both grant administration and research on the SATS-NIT cluster. Schaaf will commit effort to grant administration. Vlasek will provide technical support for the SATS-NIT cluster. All UNO project faculty will participate in SATS-NIT research. Benefits for all UNO personnel are calculated at 22%; actual costs will be assigned to the grant.

2. Other Direct Costs:

A. Subcontracts: Two major subcontracts are listed: one for the University of Nebraska -Lincoln for work led by Dr. George Gogos for the "Numerical Modeling of the Combustion of a Moving Isolated Fuel Droplet" mini-cluster; the other for the work of Dr. Massoum Moussavi for his involvement in the SATS-NIT research cluster. Funds are also set aside for seed research augmentation funding for travel, fellowships, and grant enhancement. Seed research projects will require a 1-1 match in cost-sharing.

B. Consultants: To compensate NASA personnel for travel expenses on planning meetings in Omaha for SATS-NIT, and for a stipend and travel expenses for an external evaluator.

C. Equipment: None.

D. Supplies: includes administrative supplies, such as laser toner, paper, diskettes, etc. associated with the day-to-day operation of the grant and the SATS-NIT cluster; systems software for the development of a formal systems engineering model for SATS implementation; and for the enhancement of library collections related to SATS.

E. Travel: Will include trips to Washington DC to meet with NASA HQ and LaRC personnel; data collection and conferences at US sites to be identified later; and for in-state travel related to SATS-NIT research.

F. Other: Includes funds for printing and duplicating of grant-related materials; implementation of Native American Outreach Program activities; grant-related postage; and \$40,918 for fellowships.

3. Facilities and Administrative Costs: UNO's federally-negotiated indirect cost rate agreement with the US Dept. of Health and Human Services is 35% modified direct costs for research. UNO is waiving all indirect costs associated with the grant. As specified in NASA guidelines, indirect costs are calculated on fellowships and are included in the UNO match.

Brent Bowen Date
 NASA Nebraska Space Grant/
 EPSCoR Director

Julie A. Totten Date
 Asst. Vice Chancellor for
 Business and Finance

Board of Regents of the University of Nebraska
 University of Nebraska at Omaha

Researchers

NASA Sponsor, BRUCE HOLMES:

Dr. Bruce J. Holmes manages the NASA General Aviation Program Office located at the Langley Research Center in Hampton, Virginia. In this position, he directs the Advanced General Aviation Transport Experiments (AGATE) Consortium. AGATE is a unique government industry partnership developed by NASA to support revitalization of the U.S. general aviation industry. As one of the largest corporate member alliances in the U.S., AGATE has more than 70 industry, university, FAA, & other government agency members. AGATE, founded in November 1994, develops industry design guidelines, national system standards, and FAA certification methods for new aircraft, pilot training, and airspace systems technologies. The goal is to create the bases for a safe, affordable, convenient Small Aircraft Transportation System (SATS). Holmes is the agency lead for the National General Aviation Roadmap, one of ten roadmaps supporting the NASA Administrator's Aero-Space investment planning. The goal of the General Aviation Roadmap is to "Enable doorstep-to-destination travel at four times highway speeds, to 25% of the nation's suburban, rural, and remote communities in 10 years and more than 90% in 25 years."

Holmes has been instrumental in establishing the national strategies leading to the largest R&D investment period in the history of the industry. The AGATE Consortium resources for this goal exceed \$100 million of matched industry and government funds over an 8-year period. Additional NASA and industry funding of \$100 million has been recently committed for the General Aviation Propulsion (GAP) Program for affordable new general aviation engines. A new NASA Aviation Safety Research Program brings vital support for advanced safety technologies for general aviation. Dr. Holmes has been instrumental in establishing the Small Business Innovation Research Program (SBIR) general aviation topics, which add about \$50 million to general aviation technology development. In total, over a quarter billion dollars of general aviation research has been planned and funded as a result of efforts by Dr. Holmes and his colleagues in NASA.

Dr. Holmes has been with NASA over 22 years. He has served in several research engineering and senior management positions at Langley Research Center in Hampton, Virginia and NASA Headquarters in Washington, DC, including duties Assistant Director for Aeronautics at the NASA Langley Research Center. His aeronautical engineering research accomplishments include drag reduction, flight testing methods and aircraft design concepts. Dr. Holmes became internationally known for his research in the 1970's and 1980's that laid the foundations for use of natural laminar flow for fuel savings and performance improvements on several modern production airplanes. Dr. Holmes has published 70 technical papers and has received 4 patents on aerodynamic concepts. Dr. Holmes is a recipient of numerous NASA and technical society awards, most recently receiving the Virginia Bar Association Award for Significant Achievement in Aviation Law for his innovations in creating the AGATE Alliance. He is a past member of the Board of Directors and a Fellow in the American Institute of Aeronautics and Astronautics. He has received the NASA medal for Outstanding Leadership, as well as national recognition for public speaking. He is a member of the Airplane Owners and Pilots Association (AOPA), serving as the Airport Support Network representative for the Newport News-Williamsburg Airport (PHF). He is also active with the Experimental Aircraft Association (EAA). His flying background of 35 years includes professional general aviation flying in flight instruction, Part 135 air taxi and commuter airlines, flight testing, and crop dusting. His passion for aviation began at an early age, flying with his father in the family airplanes. He lives in Newport News with his wife, Connie. He has two sons, Bryan and Matthew.

ABBREVIATED CURRICULUM VITAE

BRENT D. BOWEN

**Director, Aviation Institute, University of Nebraska at Omaha (UNO)
Professor of Aviation and Public Administration, 1996**

Education:

PhD, Oklahoma State University, May 1990 Higher Education and Aviation Education
Dissertation title: *The Federal Aviation Administration's Airway Science Program as Perceived by Program Coordinators in Participating Colleges and Universities*

MBA, Oklahoma City University, August 1988

BS, Oklahoma State University, December 1983

Primary teaching areas and teaching experience at graduate level:

- Research Methods in Public Administration,. [Revised outline and developed Aviation Cross-listing Summer 1996, hi-tech delivery 1997 and on-line delivery in 1998].
- Case Research, 3 CH, [Developed Summer 1994. Updated for on-line delivery in 1998].
- Marketing for Aviation, Public and Non-Profit Organizations,[Developed Aviation Section Cross-listing Spring 1998, comprehensive syllabi re-developed Fall 1998].
- Seminar in Aviation Administration,. [Developed Aviation Cross-listing Fall 1997].
- Readings,. [Developed Aviation Section Cross-listing Fall 1997].
- Readings in Public Administration, [Developed Aviation Cross-listing Spring 1996].
- Research in Public Administration,. [Developed Aviation Cross-listing Spring 1996].
- Aerospace Education Workshop, [Developed Aviation Cross-listing Spring 1996].
- Survey of Aviation Administration and Policy, Fall 1994, revised Summer 1996.
- Internship in Aviation Administration, Developed Spring 1995.
- Special Topics in Aviation Administration, Developed Fall 1994.

Publications:

Refereed Academic Papers:

- Headley, D., Bowen, B. (1997). *International Airline Quality Measurement*. Journal of Air Transportation World Wide. Vol. 2, No. 1, pp. 55-63.
- Lutte, R., Bowen, B. (Fall 1995). *Evaluation and Analysis of the Case Writing Method*. Journal of Aviation/Aerospace Education and Research. Vol. 5, No. 3, pp. 16-22.
- Bowen, B., Headley, D. (March 1995). *Evaluating Service Quality in the U.S. Airline Industry*. Proceedings of the Southwest Business Symposium. pp. 63-73.

Other Peer Reviewed Academic Papers:

- Bowen, B., Headley, D., Kane, K. (July 1998). *Enhancing Global Competitiveness: Benchmarking Airline Operational Performance in Highly Regulated Environments*. Paper presentation at the ATRG Extension Symposium, Dublin, Ireland.
- Bowen, B., & Schaaf, M. (1998). *Facilitating student involvement in NASA research: The NASA Space Grant aeronautics example*. T.L. Coleman, B. White, & S. Goodman (Eds.) NASA University Research Centers: Technical Advances in Aeronautics, Space Sciences and Technology, Earth Systems Sciences, Global Hydrology, and Education, 3 (pp. 960-972) Washington, DC: NASA Headquarters.
- Bowen, B., Acheson, D. (April 1998) *A Sixty Year Retrospective Analysis of Primary Flight Education Curricula: Implications for Today's Academy*. Proceedings of the National Conference on Flight Training. Daytona Beach, FL. pp. 1-12.
- Bowen, B., Headley, D. (June 1997). *The Airline Quality Rating, 1997 Results*. Proceedings of the Air Transportation Research Group International Conference, University of British Columbia, Vancouver. 10pps.
- Bowen, B. (April 1997). *Forecasting Airlines at Risk in the Interest of Public Safety*. Proceedings of the Jerome Lederer Colloquium on Aviation Surety: The Product of Safety and Security. College of Aeronautics, New York City. 6pps.

Other Papers:

- Bowen, B., Carstenson, L., Hansen, F. (1998) *Recruiting From Within: Action-Oriented Research Solutions to Internal Student Recruitment in Collegiate Aviation Education*.

- Invited paper presentation at the World Congress on Aerospace Education, Perth, Australia. 19pps.
- Bowen, B., Schaaf, M., Schaffart, M. (February 1998) *Aeronautical and Aerospace Contributions to Rural Research and Education in Nebraska*. Invited position paper for the Nebraska Rural Initiative Conference. Lincoln. 5pps.
- Bowen, B. (July 1996) *International Determinants of Airline Quality*. Invited paper presentation at the World Congress on Aerospace Education, Casablanca. 9pps.
- Bowen, B., Downing, D., Schaaf, M., et al. (May 1996) *The Further Integration of Aeronautics into the NASA National Space Grant College and Fellowship Program. Proceedings of the 3rd National Space Grant/EPSCoR Conference*. Williamsburg, VA. 10pps.
- Bowen, B., Talmadge, A. (April 1996) *Information Technology Linkages for Aviation Organizations*. Paper presented at the World Aerospace Education Organization General Session, National Congress on Aerospace Education. Little Rock, AR. 6pps.

Monographs:

- Bowen, B., Headley, D. (April 1998). *The Airline Quality Report 1998*. W. Frank Barton School of Business Report, Wichita State University. 49pps.
- Oum, T., & Bowen, B. (Eds.). (1997). The conference proceedings of the 1997 Air Transport Research Group (ATRG) of the WCTR Society. UNOAI Report 97-2 To 8. Omaha, NE: University of Nebraska at Omaha Aviation Institute.
- Bowen, B., Headley, D. (April 1997). *The Airline Quality Report 1997*. W. Frank Barton School of Business Report, Wichita State University. 41pps.
- Lehrer, H., Bowen, B., et al. (February 1997). *Aviation Institute Self Study Report for the Council on Aviation Accreditation*. UNOAI Report 97-1. University of Nebraska at Omaha. 89pps.
- Bowen, B., Headley, D. (April 1996). *The Airline Quality Report 1996*. W. Frank Barton School of Business Report, Wichita State University. 44pps.

Program Appearances: (does not include paper presentations cited previously)

- Bowen, B. (July 1998). *Academic Papers Session Chair*. World Congress on Aerospace Education. Perth.
- Bowen, B. (June 1998). *A Proposal for Cooperative NASA Space Grant and NOAA Sea Grant Interaction*. An invited presentation at the Great Lakes Region Sea Grant Conference. Duluth, MN.
- Schalles, J., Bowen, B. (April 1998). Session Moderators, *Aeronautics and Space Science Section*, Nebraska Academy of Science. Lincoln.
- Bowen, B. (April 1998). *Aeronautics and Space Transportation Technology Working Group Report*, National Council of NASA Space Grant Directors Meeting, Las Vegas.
- Bowen, B. (April 1998). *Aeronautics and Space Transportation Technology Working Group Panel Session Chair*, National Council of NASA Space Grant Directors Meeting, Las Vegas.
- Bowen, B. (March 1998). *Infrastructure for Global Aerospace Education*. Presented at the WAEO Session at the National Congress on Aerospace Education. St. Louis.
- Bowen, B. (March 1998). *Nebraska Space Grant Progress Report*. Presented at the Midwest Regional Space Grant Conference. Chicago.
- Bowen, B., Downing, D. (October 1997). *An Overview of Aeronautics in the NASA Space Grant Program*. Invited Presentation to the NASA Aeronautics Education Coordinating Committee, NASA Dryden Research Center, Edwards, AFB, CA.
- Bowen, B. (October 1997). *Research Roundtable Session Chair*, University Aviation Association Fall Conference, Dallas, TX.
- Bowen, B. (October 1997). *Aeronautics Working Group Report*, National Council of NASA Space Grant Directors Meeting, Rapid City, SD.
- Bowen, B. (October 1997). *Aeronautics Working Group Panel Session Chair*, National Council of NASA Space Grant Directors Meeting, Rapid City, SD.
- Bowen, B. (July 1997). *Ad hoc Committee on Distance Education Report*. Presented to the CAA Board of Directors. Seattle, WA.
- Bowen, B. (May 1997). *The Case Writing Method*. Invited presentation to the Symposium on Enhancing the First Year Experience, Center for Faculty Development, UNO.

Research:

- Bowen, B. (April 1998). Principal Investigator [.25% FTE], Proposal to the NASA Space Grant Program titled "The Nebraska Space Grant Consortium, Year 7." Supports statewide research in aviation/aerospace including the Airline Quality Rating.
- Bowen, B. (May 1998). Principal Investigator [.25% FTE], Proposal to the NASA EPSCoR Program titled "The Nebraska NASA EPSCoR Program, Year 2." Supports the Nebraska Initiative for Aerospace Research and Industrial Development.
- Bowen, B., Reed, R., Hinton, D. (August 1997). Proposal to the Lied Foundation to create the Lied Center for Aviation and Transportation Studies.
- Bowen, B. (January 1997). Principal Investigator [50% FTE], Proposal to the NASA Space Grant Program titled "The Nebraska Space Grant Consortium, Year 6." Supports statewide research in aviation/aerospace including the Airline Quality Rating.
- Bowen, B. (November 1996) Principal Investigator [25% FTE], Proposal for a grant from NASA EPSCoR titled, "Nebraska Initiative for Aerospace Research and Industrial Development."
- Bowen, B. (February 1996). Principal Investigator [50% FTE], NASA Space Grant Program titled "The Nebraska Space Grant Consortium, Year 5." Supports statewide research in aviation/aerospace including the Airline Quality Rating.

Practitioner Experience:

- *Consultant*. Aviation Quality Improvement, Aviation Administration, Aerospace Education, Air Transportation Systems Productivity Enhancement and Public Safety in Air Operations. 4-86/Present
- *Professional Pilot*. Flight and Ground Instruction for all FAA Single and Multi-Engine Land Airplane, 8-86/Present
- Ratings under FAR 141 and 61. Corporate Pilot Services (FAR 91) for Wichita State University and the University, 8-86/Present
- University of Nebraska at Omaha. Flight Instructor and Clearing Official for the Offutt Air Force Base Aero Club. 8-86/Present
- *State of Nebraska Delegate*. Appointed as the State of Nebraska's Delegate to the Aerospace State Association. 6-98/Present
- *Board of Directors*. Center for Aviation Research and Education, National Association of State Aviation Officials. Washington, D.C., 3-94/3-96

Selected Public Service Activities.

- Volunteer, AOPA Airport Support Network. May 1998-Present.
- FAA Aviation Safety Counselor, Nebraska's FAA Flight Standards District Office. October 1995-Present.
- Member, Clearing Official and Flight Instructor, U.S. Air Force's Offutt Aero Club, Offutt Air Force Base. April 1994- Present.
- Member, Optimist International and the Omaha Optimist Club of Aviation. January 1993-Present.
- Member, UNO Alumni Association Century Club. 1993-Present.
- Member, UNO Library Friends. October 1992-Present.
- FAA Aviation Education Counselor, FAA Central Region. April 1990-Present.

Selected Consulting Activities:

- American Bonanza Society (January 1991-April 1995). Provided recommendations on managerial process quality improvement, marketing research applications, data base management, and personnel strategy. Six industry presentations and one industry conference paper resulted.
- British Airways (May 1992). Developed a program on International applications of the Airline Quality Rating. Two reviewed academic articles resulted.

ABBREVIATED CURRICULUM VITAE

HENRY R. LEHRER

Professor, Aviation Institute, University of Nebraska at Omaha; Omaha, NE 68182- 0508 (402-554-3424)

I. Education

- A. Doctor of Philosophy, Bowling Green State University, December 1985, Higher Education Administration and Supervision.
- B. Master of Education, Kent State University, 1968. Secondary School Administration.
- C. Bachelor of Science in Education, Ohio University, 1963, Instrumental Music Education.

II. Professional Experience

- A. Academic Positions - University (Traditional)
 1. University of Nebraska at Omaha, Omaha, NE. Professor - Aviation Institute. From April 1997, continuous appointment began in August 1997; admitted to graduate faculty as Fellow in December 1997.
 2. Embry-Riddle Aeronautical University, Daytona Beach, FL. Professor, Aeronautical Science. August 1987 to April 1997; promoted to Professor in 1991 and tenured in 1992. Admitted to graduate faculty in 1987.
 3. Bowling Green State University, Bowling Green, OH. Assistant Professor, Technology. August 1980 to May 1987. Tenured in 1986. Admitted to graduate faculty in 1986.
- B. Academic Positions - Teaching (Non-Traditional)
 1. Visiting Professor, University of Nebraska at Omaha; August 1996 to April 1997.
 2. Professional Programs, Embry-Riddle Aeronautical University, Daytona Beach, FL. April 1995 and February 1996.
 3. Distinguished Lecturer in Residence for 1994, Aviation Institute, University of Nebraska at Omaha, April 1994.
 4. Embry-Riddle Aeronautical University, Daytona Beach, FL. Professor-Distance Learning, Masters in Aeronautical Science Program. 1993 to 1997
 5. Southern Illinois University, Carbondale, IL. Visiting Professor. From 1986 to present.
- C. Non-Academic Positions
 1. FlightSafety International, Cessna Citation Learning Center, Toledo, OH. 1986-87. Ground and simulator instructor for Citation I, II, and SII.
 2. Federal Aviation Administration. Designated Written Test Examiner (C65D). 1983-1987.
 3. National Flight Service, Toledo, OH. 1974-1980. On call co-pilot.
 4. Toledo Flight Service, Toledo, OH. 1978-1980. Flight and ground instructor.
 5. Trainair, Inc., Toledo, OH. 1972-1978. Flight and ground instructor.

III. Teaching Experiences

A. Teaching Interests and Specialties (Graduate Level)

Aviation Fiscal Administration, Aviation Administration and Transportation Policy, Air Transportation, Aviation Education Foundations, Adult Teaching and Learning Techniques, Continuing Education's Role in Aviation Education, Research and Statistics, Advanced Aviation/Aerospace Curriculum and Instructional Design, Thesis, and Research Problem Supervision

B. Professional Associations and Organization Offices and Committees

1. National Committees/Elected Offices

- a. Council on Aviation Accreditation, Guidance Committee, 1997 to present.
- b. University Aviation Association, Awards Committee, 1997 to present.
- c. National Business Aircraft Association/University Aviation Association Curriculum Taskforce, 1996.
- d. University Aviation Association, President, 1995 - 96.
- e. University Aviation Association, Treasurer, 1993-1994.
- f. University Aviation Association, Board of Trustees, 1990-93.

C. Recent Papers and Presentations at Professional Meetings (refereed)

1. Lehrer, H. R. (1998). "Intermodal Airport to City-Center Passenger Transportation at the 20 Largest US Aircarrier Airports: The Past, Present, and Future." World Conference on Transportation Research, Antwerp, Belgium, July 1998.
2. Lehrer, H., Moore, P., Telfer, R., & Freeman, A. (1998). "Future Airline Training: What has been learned for Pilots and Instructors." Manly Aviation Psychology Conference, Sydney, Australia, March 1998.
3. Lehrer, H. R. (1997). "Using the World Wide Web as an Instructional Methodology in Undergraduate Aviation Classes." Nebraska Aviation Education Association Annual Meeting. Kearney, NE, January 1997.
4. Moore, P., Telfer, R., & Lehrer, H. (1997). "Instructor Perspective on Learning in Aviation." Annual Aviation Psychology Meeting, The Ohio State University, Columbus, OH, April 1997.

D. Selected Papers, Presentations, and Panels at Professional Meetings (non-referred)

1. Bowen, B., & Lehrer, H.R. "Opportunities for Tribal Colleges through NASA Space Grant Funding." American Indian Higher Education Consortium, October 1996, Rapid City, SD,
2. Lehrer, H.R. "Fourteen, Eleven, and Three: Where do we go from here." ERAU Senior Achievement Luncheon Speaker, December 1993, Daytona Beach, FL.
3. Lehrer, H. R. Soapbox Presentation Organizer and Moderator, Fall Educational Conference of the University Aviation Association, Atlanta, GA, September 1993.
4. Lehrer, H.R. "Training Technologies" Volusia-Flagler County Safety Council, Daytona Beach, FL, January 1993.

E. Editorships (refereed)

1. Collegiate Aviation Review. University Aviation Association, 1997 Call for Papers and Publication.
2. Journal of Aviation/Aerospace Education and Research. Founding Editor. Established February, 1989. First issue published April 1990. Editor for Volume 1: #1 - 3; Volume 2: #1 - 3; Volume 3: #1 - 4. Volume 4: #1 - 3, and Volume 5: #1 - 3; Volume 6: #1 - 3.
3. Proceedings of the Fall Educational Conference of the University Aviation Association (1988 & 89). 100 pages and 50 pages, Daytona Beach, FL: Embry-Riddle Aeronautical University.

IV. Research

A. Recent Projects, Contract, and Grants

1. Nebraska/NASA EPSCoR, Continued Funding for "The Development , Dissemination, and Analysis of Data from the Pilot Instruction Process Questionnaire (PIPQ)." November 1997, \$2,350. Principal Investigator.
2. Nebraska/NASA EPSCoR, Continued Funding for "An Articulation Model with Native American Tribal School." November 1997, \$87,250, Principal Investigator.
3. Nebraska/NASA EPSCoR, Funding for "An Articulation Model with Native American Tribal School." November 1996, \$87,250, Principal Investigator.
4. Nebraska/NASA EPSCoR, Funding for "The Development , Dissemination, and Analysis of Data from the Instructor Learning Process Questionnaire (ILPQ): A First Look at Aviation Instructors' Approaches to Learning." November 1996, \$27,350. Principal Investigator.

V. Publications

A. Recent Books, Encyclopedia, and Special Reports

1. Lehrer, H. R. (1997). Affective Evaluation in Aviation Instructional Programs: Some Preliminary Thoughts. In R. Telfer and P. Moore Aviation Training: Pilot, Instructor and Organization. Aldershot, UK: Ashgate, 274-282.
2. Moore, P, Lehrer, H., & Telfer, R. (1998). Quality Training and Learning in Aviation: Problems of Alignment. In Haraf, A. (Ed.) Handbook of Business Aviation Management, In Press.
3. Lehrer, H.R.(1997). A History of US Aircarriers Since World War II. Southern Illinois University Press, for T. Brady's An American Aviation Experience, In Press.
4. Lehrer, H., et. al. (1996). "CAA Self-Study for the Aviation Institute of the University of Nebraska at Omaha." 320 pages.
5. Lehrer, H. (1994). Collegiate Wings: The History of American Higher Education Aviation Programs. In manuscript.

B. Recent Published Articles (refereed)

1. Lehrer, H., Moore, P., Telfer, R., & Freeman, A. (1998). "Future Airline Training: What has been learned for Pilots and Instructors." Manly Aviation Psychology Conference, Sydney, Australia, March 1998. 6 pages.
2. Lehrer, H. R. (1998). "Intermodal Airport to City-Center Passenger Transportation at the 20 Largest US Aircarrier Airports: The Past, Present, and Future." Journal of Air Transportation World Wide, 3 (1).
3. Moore, P., Telfer, R., & Lehrer, H. (1997). "Instructor Perspective on Learning in Aviation." Proceedings of the 10th Annual Aviation Psychology Meeting, The Ohio State University, Columbus, OH, April 1997.
4. Lehrer, H., & Carrico, J, (1997). The Gore Commission and Recommendations for Omaha Eppley Airport. Proceeding for the Jerome Lederer Aviation Symposium, College of Aeronautics, New York.
5. Lehrer, H.R.(1996). In Search of Membership Satisfaction: The University Aviation Association (UAA) Survey. Journal of Air Transportation World Wide, 2 (1).

ABBREVIATED CURRICULUM VITAE

B.J. REED

UNO Department of Public Administration
Professor and Chair, 1982

EDUCATION:

Ph.D., University of Missouri, 1977, Political Science
 Dissertation title. *Politics of Planning in Twenty Communities in Missouri*

MS, Fort Hays State University, 1972, Political Science

BA, Fort Hays State University, 1971, Political Science

Primary Teaching Areas:

- Budgeting and Financial Management
- Strategic Planning
- Municipal Administration

Publications:

- "Target Budgeting in Lincoln County" chapter in Budgeting and Financial Management, Kendall-Hunt, Dubuque, Iowa, October 1994 edited by Aman Khan and W. Bartley Hildreth (with Mr. Frank Koehler)
- "Intergovernmental Relations" chapter in Managing Small Cities and Counties: A Practical Guide published by the International City/County Management Association, Washington, D.C., 1994
- "Applying Strategic Planning to Rural Economic Development" chapter in Rural Development Perspectives, edited by David W. Sears and J. Norman Reid, Nelson-Hall Publishers, Chicago, 1995 (with Dr. Robert Blair)
- "Risk Insurance Pools: A National Survey", Public Budgeting and Finance, Volume 15, Number 1 (Summer 1995) (with Dr. Peter Young)
- Public Finance Administration (2nd Edition) SAGE publications, January 1997 (with Dr. John Swain)
- "Going Remote: The Use of Distance Learning, The World Wide Web, and Internet" Public Productivity Review Volume 20, Number 4 (June, 1997) (with Dr. Dianne Rahm)
- "Tangled Webs in Public Administration: Organizational Issues in Distance Education" Public Administration and Management: An Interactive Journal Volume 3, Number 1 (1998) (with Dr. Dianne Rahm)
- From Nation to States: The Small Cities Community Development Block Grant Program, SUNY Press, 1986 (with Ed Jennings, Alex Patakos and Dale Krane)
- Managing Economic Development, Jossey-Bass Publishers, 1988 (With Christine Reed, Jeff Luke and Curt Ventriss)
- "The Impact of Dual Career Marriage on Occupational Mobility in the Local Government Management Profession", American Review of Public Administration, (June, 1993)
- "Economic Development in Rural Communities: Can Strategic Planning Make A Difference" Public Administration Review Volume 53, No. 1 (January/February, 1993) (with Dr. Robert Blair)

Research projects:

- Principal Investigator
 - Community Outreach Partnership Center, HUD, \$400,000 1998 -present
 - Omaha Family Support Program, Title XI, U.S. Department of Education, \$750,000, 1994-1997
 - Pulling America's Communities Together Grant, U.S. Department of Justice, \$550,000, 1995 to Present
 - Comprehensive Outreach Partnership Center Grant, U.S. Department of Housing and Urban Development, \$400,000, 1997-2000

Significant Practitioner Experience:

- Director of Community Development, City of Mexico, Missouri - 1975-1978
- Senior Staff Associate, National League of Cities, 1978-1981
- Director of Community and Economic Development, National League of Cities, 1981-1982

Involvement in Academic and Professional Associations:

- Secretary-Treasurer, Nebraska Chapter of ASPA, 1983-1986
- Council Member, Nebraska Chapter of ASPA, 1989-1993
- Chair, Donald Stone Awards Committee, ASPA, 1989-1990
- NASPAA Committees
 - Distance Learning Task Force, 1996
 - Standards Committee, 1996-Present
 - Excellence in Teaching Award, 1995
 - Peer Review and Accreditation Committee, 1997-Present
- National Council, Pi Alpha Alpha, 1997-Present
- Editorial Board, American Review of Public Administration 1988-Present
- Co-Editor, Journal of the Community Development Society, 1992-1997

Selected program/workshop appearances:

- Presenter or Chair- NASPAA Annual Conference
 - “Applications of Internet Technology” 1994
 - “Distance Learning National Survey” 1995
 - “Perspectives on Intergovernmental Research” 1995
 - “Distance Learning and Public Affairs Education” 1996
 - “Organizational Issues in Distance Learning” 1997
- Presenter, APPAM Annual Conference, 1997 , “Organizational Design and Distance Education”

Public Service Activities:

- Commissioner, Omaha Public Housing Authority, 1993-1998
- Member, Greater Omaha Private Industry Council, 1983-1997
- Chair, Curriculum Committee, Leadership Omaha, 1995-1998

ABBREVIATED CURRICULUM VITAE

MASSOUM MOUSSAVI

129B Engineering Building,
 Department of Civil Engineering,
 University of Nebraska-Lincoln, Omaha, Nebraska 68182-0178.
 Tel:(402)554-3414, Fax:(402)554-3414,
 E-mail:moussavi@unomaha.edu

EDUCATION

Ph.D.(Civil Engineering), Virginia Polytechnic Institute and State University, 1984.
 M.S. (Civil Engineering), Virginia Polytechnic Institute and State University, 1982.
 B.S. (Civil Engineering), West Virginia Institute of Technology, 1980.

LICENSE AND REGISTRATION

Registered Professional Engineer in Nebraska and Tennessee.

PROFESSIONAL EXPERIENCE

9/1987 to Present

Associate/Assistant Professor, Department of Civil Engineering, University of Nebraska-Lincoln, Omaha Campus.

9/1985 to 9/1987

Assistant Professor/Post-Doctoral Research Associate/Graduate Research Assistant, Department of Civil Engineering, Tennessee State University, and Virginia Polytechnic Institute and State University.

2/1982 to 12/1982

Traffic Engineer (part-time)/Graduate Research/Teaching Assistant/ Work-Study Assistant, Town of Blacksburg-Virginia, Virginia Polytechnic Institute and State University, West Virginia Institute of Technology.

RESEARCH ACTIVITIES

- o 11 Funded research projects with total amount of \$700,000
- o 38 Refereed journal publications and conference proceedings
- o 23 National and international presentations
- o 11 Contract and research reports
- o 18 MS and Ph.D. students supervised

NATIONAL SCIENTIFIC AND PROFESSIONAL SOCIETY MEMBERSHIP

- o American Society of Civil Engineers
- o Institute of Transportation Engineers
- o Transportation Research Board
- o American Society for Engineering Education

HONORS AND AWARDS

- o 13 teaching, research, and service awards/recognitions

ABBREVIATED CURRICULUM VITAE

DAVID W. HINTON

PERSONAL INFORMATION

Office Address: Dean's Office, Annex 24
 College of Public Affairs and Community Service
 University of Nebraska at Omaha
 Omaha, NE 68182-0145
 (402) 554-2276

Education: Ph.D., Economics, University of Arkansas, 1971
 M.B.A., University of Arkansas, 1967
 B.S., Business Administration & Sociology,
 Upper Iowa University, 1965

TEACHING AND ADMINISTRATIVE EXPERIENCE

University of Nebraska at Omaha (1972-present)

- 1985- Present Dean and Professor, College of Public Affairs and Community Service.
- 1976-85 Assistant Dean, Acting Dean, and Associate Dean, College of Public Affairs and Community Service.
- 1982-85 Associate Professor and Chair, Department of Public Administration/Urban Studies.
- 1972-76 Research Associate to Senior Research Associate, Center for Applied Urban Research, a unit within the College of Public Affairs and Community Service. Served one year as Assistant Director.

Other

- 1966-72 Instructor, Business Administration, Upper Iowa University; Assistant Professor, Economics, University of Tennessee at Martin.

RESEARCH

Research includes more than 20 applied urban research monographs and reports funded through grants and contracts. Topics included housing, recreation, labor market analyses, health delivery systems, inner city development issues, business district development, housing and business investment issues, economic and demographic analyses, freeway development, suburban development, and social welfare issues. Other published research in The Urban Review, Public Administration Review and Review of Applied Urban Research and in the books Ideal and Practice in Council-Manager Government and Environment for Small Business and Entrepreneurship. Paper presentations at ASPA and NASPAA conferences, urban education conferences, decision sciences conferences, and economics conferences. Topics focused on urban issues, public management, public administration, and education issues. Most recent paper presentation on minority faculty needs in public administration.

COURSES TAUGHT

Applied Statistics in Public Administration, Research Methods (graduate), Introduction to Urban Studies, Special Studies in Urban Studies, Senior Seminar in Urban Studies, Metropolis as a Public Economy (graduate), Interdisciplinary Seminar on the Urban Community (graduate), Labor Economics, Microeconomics, Labor Law, History of Economic Thought, American Economic History, Money and Banking, Economic

Development, Principles of Economics, Principles of Accounting, and Introduction to Business.

CONTRIBUTIONS TO THE PROFESSION (Selected)

Member, NASPAA Executive Council, 1990-1993 1996-present; NASPAA Committee on Outcomes Assessment; NASPAA Standards Committee, 1991-1993; NASPAA Commission on Peer Review and Accreditation, 1993-1996; NASPAA Site Visit Team member, recently chaired reviews of the MPA programs at the University of Milwaukee-Wisconsin, the University of Nevada-Las Vegas, and the University of New Mexico; Northwest Association Accreditation Team, Portland State University; Graduate College Program Review Team, Arizona State University.

Past President, Nebraska Chapter, American Statistical Association; Director, Tenth Annual Nebraska Municipal Clerks School.

Reviewer, articles for: Urban Affairs Review, Public Administration Review, American Review of Public Administration, State and Local Government.

INTERNATIONAL EXPERIENCE

On site research and consulting in Saudi Arabia and Tajikistan.

COMMUNITY SERVICE RELATED TO PROFESSION (Selected)

Recent community board service includes: Nebraska Food Bank Network (Past President), Edmonson Youth Development Association (President), Metropolitan Arts Council (Vice President), Omaha YMCA (Executive Committee), Human Services Roundtable (Steering Group). Also provide on-going consultation and planning assistance to various non-profit agencies, recently including Salvation Army, Greater Omaha Community Action, Wesley House, United Way Human Services Roundtable.

ABBREVIATED CURRICULUM VITAE

RUSSELL L. SMITH

Associate Professor, Department of Public Administration, UNO

Education:

Ph.D., University of Tennessee-Knoxville, 1977, Public Administration
Dissertation title: *Policy Innovativeness in the American States*

MA, North Texas State University, 1974, Public Administration

BA, University of Houston, 1972, Political Science.

Primary Teaching Areas:

Policy Analysis
Quantitative Techniques of Analysis
Local Government Management
Strategic Planning
Decision Tools and Group Process

Publications:

- "Local Governments and Public Facilities Construction in Nebraska: Expenditures, Cooperation and Operation of Joint Facilities," with Jerome Deichert and David Fifer (Nebraska Commission on Local Government Innovation and Restructuring, 1997).
- "LB 1085 Report To The Nebraska Unicameral For Dodge, Douglas, Sarpy, Saunders and Washington Counties" (Center for Public Affairs Research, University of Nebraska at Omaha, 1997).
- "Potential Costs and Savings from Consolidating Register of Deeds Offices" (Center for Public Affairs Research, University of Nebraska at Omaha, 1997).
- "Strategic Plan for the Omaha Public Library" (Center for Public Affairs Research, University of Nebraska at Omaha, 1996).

Research:

- Nebraska Commission on Local Government Innovation and Restructuring, \$9,900 for "Survey of Local Government Capital Facilities Cooperation," report listed under section #4 above.
- Multi-County Shared Services Group, \$12,000 for "LB 1085 Report," report listed under section #4 above.
- United States Information Agency, \$145,000 for "Conflict Resolution Training In Afghanistan," with Tom Gouttierre, International Studies (funded for 1998-1999).
- Eurasia Foundation, \$129,000 for "Public Administration Training Program for Moldova," with Frank Koehler, Department of Public Administration (1995-1996), developed strategic plan for Academy of Public Administration and 4 training modules (with John Bartie, Dale Krane, Frank Kochlet and Jay White).
- United States Information Agency, \$117,000 for "Public Administration and Civil Society for Tajikistan," (1994-1995), developed 5 week U.S.-based internship for 14 participants.

Involvement in Academic and Professional Associations:

- Co-Editor, Journal of the Community Development Society, the official journal of the International Community Development Society (1992-1996)
- External Program Review, Master of Public Administration Program, College of Arts and Sciences, University of Missouri St. Louis, (1994)
- Co-Editor, "Emerging Management Issues in Small Communities," special issue of the journal, New Directions in Public Administration Research, 1989
- Editorial Board, Review of Public Personnel Administration, 1979-84

- Manuscript reviewer for Prentice-Hall, Urban Affairs Quarterly, State and Local Government Renew, American Journal of Political Science, Public Administration Review, Industrial and Labor Relations Review, Social Science Quarterly, Midwest Review of Public Administration, Administration and Society

Selected Public Service Activities:

- Adviser, "New Horizons for Nebraska: Developing A Strategic Outlook for the Nebraska Legislature," 1987-1989
- Member, Executive Board, Nebraska ASPA Chapter, 1987-88
- Member, Research Committee, Women's Fund of Greater Omaha, 1992-1994
- Member, Research Council, Greater Omaha Chamber of Commerce, 1990-1992
- Chair, Community Development Work Group, Nebraska Development Network, Vermillion Planning Commission, City of Vermillion, SD, 1992-1993
- Member, Vermillion Planning Commission, City of Vermillion, SD, 1985-1986
- Chair, Governmental Affairs Committee, Vermillion Area Chamber of Commerce, Vermillion, SD, 1985-1986
- Economic Development Representative, Private Industry Council for Service Delivery, Illinois Area No. 5/Job Training Partnership Act, 1983-1984
- Member, Economic Development Committee, Illinois Employment and Training Council, 1981-1982
- Adviser, International City Management Association, "National Survey of Municipal Labor-Management Relations," 1980

Selected Consulting Activities:

- Eurasia Foundation, 1997, provided advice on development of public administration grant initiatives in the former Soviet Union
- Douglas County Board, 1997, wrote contract for purchase of county library services from City of Omaha library system
- Office of Marketing and Business Development, City of Omaha, 1996, provided research support for feasibility study for Hispanic Market Place

ABBREVIATED CURRICULUM VITAE

JOHN BARTLE

Department of Public Administration, University of Nebraska at Omaha (UNO), Omaha, NE 68182-0276. Assistant Professor, 1994-present. Graduate faculty member.

EDUCATION:

- Ph.D.** The Ohio State University, 1990, Public Policy and Management. Dissertation title: "The Political Economy of Intergovernmental Grants to Cities."
- M.P.A.** University of Texas at Austin, 1983, Public Affairs.
- B.A.** Swarthmore College, 1979, majored in Economics, minored in Political Science and History. Degree granted with honors.

PRIMARY TEACHING AREAS: Public Finance, Public Sector Economics, Public Budgeting, Research Methods and Statistics, Public Policy Evaluation.

PRACTITIONER EXPERIENCE:

- Minnesota Taxpayers Association, Research Analyst, Saint Paul, Minnesota, 1985-1987.
- Minnesota Tax Study Commission, Research Analyst, Saint Paul, Minnesota, 1983-1985.
- Department of Finance and Management, City of Saint Paul, Minnesota, Intern, summer 1982.
- American Enterprise Institute, Research Assistant, Director of Tax Policy Studies, Washington DC, 1979-1981.

SELECTED REFEREED PUBLICATIONS:

- "Budgeting, Policy and Administration: Patterns and Dynamics in the U.S.," forthcoming, International Journal of Public Administration.
- "Local Government Fiscal Reform: Principles and Options for the Future," with Ronald L. Greenberg, International Review of Public Administration, (Fall, 1999) vol. 22, no. 9-10.
- "The Effect of Intergovernmental Aid on City Property Taxes: New Results for Minnesota," Public Budgeting and Financial Management, (Summer, 1996) vol. 8, no. 2, pp. 150-169.
- "Are City Managers Greedy Bureaucrats?" with Ronnie LaCourse Korosec, Public Administration Quarterly, (Spring, 1996) vol. 20, no. 1, pp. 89-102.
- "Coping with Cutbacks: City Response to Aid Cuts in New York State," State and Local Government Review (Winter 1996) vol. 28, no. 1, pp. 38-48.
- "The Fiscal Impact of Federal and State Aid to Large U.S. Cities: An Empirical Analysis of Budgetary Response," Public Budgeting & Finance (Winter 1995) vol. 15, no. 4, pp. 56-67.
- "Airport Financing and User Charge Systems in the U.S.A.," Tae H. Oum and Brent D. Bowen (eds.) The Conference Proceedings of the 1998 Air Transport Research Group (ATRG) of the WCTR Society, UNO Aviation Monograph Series, Report 98-7, vol. 2, (December, 1998).

OTHER SELECTED PUBLICATIONS:

- Local Tax and Expenditure Limits: A Review of the Literature, with Carol Ebdon, Nebraska Rural Development Commission and Nebraska Community Foundation, 1998.
- Reforming Infrastructure Finance, Nebraska Mandates Management Initiative, 1998.
- Interlocal Cooperation in Nebraska, with Richard Swayze, Nebraska Mandates Management Initiative, 1997.

- Taxing Decisions: Considering an Income Tax for Broome County, with Ronald L. Greenberg, 1993.
- "Fiscal Realignment in the Eighties," with Charles F. Adams Jr., Proceedings of the Eighty-Second Annual Conference on Taxation (National Tax Association, 1990) pp. 193-198.
- Benchmark Ohio, 1991 with William J. Shkurti (Ohio State University Press, 1991).
- Benchmark Ohio, 1989 with William J. Shkurti (Ohio State University Press, 1989).
- Classified: The Minnesota Property Tax System, Minnesota Taxpayers Association, 1987.
- "Earmarking State Revenues," and "Taxation of Railroad Property in Minnesota," Minnesota Tax Study Commission, 1984.
- "The Tax System and Intergovernmental Linkages," Final Report of the Minnesota Tax Study Commission, Vol. 1. Reprinted in Minnesota Tax Journal vol. 1, no. 13 (Winter 1986), pp. 254-260.
- "A Model for Understanding the Governments Division," GRA Reporter (fourth quarter, 1986).
- "Tax System Not More Regressive," Minnesota Journal, vol. 4, no. 1 (November 11, 1986).

RECENT CONSULTING ACTIVITIES:

- Grant from the Nebraska Rural Development Commission to study the effect of property tax limitations, with Carol Ebdon, 1998.
- Consultant, Nebraska Local Government Assistance Program, 1998-99.
- Consultant, Nebraska Mandates Management Initiative, 1997-1998.
- Competitive research grant, NASA Nebraska/EPSCoR space grant, 1997.
- Developed public finance curriculum, instruction and curriculum review for Moldova Academy for the Study of Public Administration, supported by Eurasia Foundation grant, 1995-96.

INVOLVEMENT IN ACADEMIC AND PROFESSIONAL ASSOCIATIONS: American Society for Public Administration, Association for Public Policy Analysis and Management, National Tax Association (vice-chair, Intergovernmental Fiscal Relations Committee), Pi Alpha Alpha (honorary society).

SELECTED PROGRAM/WORKSHOP APPEARANCES:

- Chaired panel, "Evolving Theories of Public Budgeting," Association for Budgeting and Financial Management, November 6, 1998.
- "Budget Responses to Local Government Tax Limits in Nebraska: Who Decides?" with Carol Ebdon, Association for Budgeting and Financial Management, November 6, 1998.
- "Reforming Infrastructure Finance," Association for Budgeting and Financial Management, November 7, 1997.
- "Uncertainty and Budgeting," Association for Budgeting and Financial Management, October 11, 1996.
- Chaired panel, "Fiscal Stress, Risk-Taking and New Service Delivery in Local Government," and presented paper, "Managing Fiscal Stress in Major U.S. Cities," American Society for Public Administration, July 1, 1996.
- "Seven Competing Models of Budgeting," Association for Budgeting and Financial Management, October 14, 1995.
- "Dealing with Fiscal Stress in New York State: City Fiscal Response and Theoretical Implications," Association for Public Policy Analysis and Management, October 28, 1994.
- "County Income Taxes: A New Trend in State-Local Relations?" Association for Budgeting and Financial Management, October 14, 1994.

SELECTED PUBLIC SERVICE ACTIVITIES:

- Faculty Senate, University of Nebraska at Omaha, 1998-present.
- Advisor, Government Performance Project, Maxwell School of Public Affairs, Syracuse University, 1997-98. This ranked state government management systems, Governing magazine, (February, 1999).
- Graduate Program Committee, Department of Public Administration, UNO, 1997-present.
- Doctoral Committee, Department of Public Administration, UNO, 1994-1997.
- Referee, Public Budgeting & Finance, State and Local Government Review, Public Budgeting and Financial Management, International Journal of Public Administration, Public Works Management & Policy, Municipal Finance Journal, American Review of Public Administration.
- Public member, Municipal Dock Board, City of Omaha, 1995-present.
- Executive Committee, Nebraska chapter, American Society for Public Administration, 1995-1998.
- Honors examiner, Public Finance, Swarthmore College, 1994, 1997.

TESTIMONY:

- "Issues in Determining the Local Spending Lid," with Carol Ebdon, Nebraska State Legislature, Committee on Revenue, January 13, 1999.
- "Property Tax Limitations and State Budgets," Nebraska Board of Regents, September 13, 1996.
- "Property Tax Relief," Nebraska State Legislature, Tax Policy Briefing, September 9, 1994.
- "Accountability and Property Tax Credits," Minnesota House of Representatives, Committee on Property Taxes, Property Tax Division, February 19, 1987.

ABBREVIATED VITAE**FRED HANSEN****Education**

Doctoral Program, Public Administration with minors in Aviation and Transportation.
University of Nebraska at Omaha, 1997 - Present

MPA, Public Administration with minor in Aviation. University of Nebraska at
Omaha, 1996-1997

Certificate. Aviation Safety School. Naval Post Graduate School, Monterey, 1972

Naval Aviator. U.S. Navy Flight Training Schools, 1967-1968
BS, Aerospace Engineering. Iowa State University, 1962-1967

Experience

Assistant Editor, Journal of Air Transportation World Wide, 1997 - Present

Defense Communication Agency Pacific. Deputy Director for Long Range
Transmission Systems, 1988-1991

U.S. Navy Central Command. Plans and Policy Division. Transportation and
logistics planning, 1985-1988

National Emergency Airborne Command Post (NEACP). Strategic Plans Officer,
1981-1985

USS Enterprise. Department Head for Weapons and Security. 1980-1981

USS Constellation. Aircraft Handling Officer. Assistant Air Operations Officer,
1979-1980

Air Test and Evaluation Squadron Five, China Lake California Safety Officer and
Project Test Pilot, 1976-1979

Attack Squadron 155. Department Head in Administration, Maintenance, and Safety
departments. Maintenance test pilot and instrument check pilot, 1974-1976

Attack Squadron 125. Flight Instructor, Maintenance test pilot, Instrument check
pilot. Classroom instructor for Light Attack Weapons School Pacific, 1971-1974

Attack Squadron 56. Combat pilot in Vietnam. Two tours, 1968-1971

Awards

Defense Meritorious Service Medal - 2 awards

Combat Air Medal with numeral 17

Vietnamese Gallantry Cross - 1 award

Navy Commendation Medal - 3 awards with combat V

National Defense Medal - 2 awards

Vietnamese Campaign Ribbon with 4 stars

Navy Chief of Naval Operations Annual Safety Award - 2 consecutive awards for
accident free operations

ABBREVIATED VITAE

JENNIFER RIGGS

EXPERIENCE:

September 1996 - present Midwest Express Airlines Oak Creek, WI

Flight Attendant

- Provide safety and comfort to passengers
- Certified flight attendant for DC9 and MD-80 aircraft
- In-depth knowledge of FARs related to commercial aviation
- Pre-flight equipment on aircraft to ensure operation
- Provide high quality in-flight service to passengers
- Served on Dining Services Committee
- Successfully passed initial and recurrent training
- Serve on Hospital Response Team as a liaison between Midwest Express and hospitals in the Omaha area
- Participated in the June 1998 Eppley Airfield Aircraft Disaster Drill

June 1995 – September 1996 Cornhusker Motor Club Omaha, NE

Travel Counselor

- Worked closely with AAA members to fulfill needs
- Successfully sold land and air packages, booked hotels
- Answered multi-line telephone system
- Responsible for traveler's cheques and cash handling

EDUCATION:

August 1998 - present University of Nebraska at Omaha Omaha, NE

Undergraduate seeking Bachelor of Science in Aviation Administration

- Currently enrolled in nine credit hours
- Presently in Diversity in Aviation and an Introduction to Aviation and Aerospace courses
- Completed thirty credit hours in Pre-Aviation program

August 1995 – August 1996 Metropolitan Community College Omaha, NE

- In good standing for the three quarters enrolled
- Transfer G.P.A. 3.5 on a 4.0 scale

AWARDS RECEIVED:

- Dean's List, Fall Semester 1998
- Member of Phi Theta Kappa, International Honor Society, 1996

ABBREVIATED VITAE**TRACEY CULLAN****Work Experience:**

UNO Aviation Institute, February 1999 to Present

Graduate Research Assistant - Responsibilities include: Data Collection, Internet and database searches.

Children's Hospital, August 1998 to December 1998

Teen Coordinator- Responsibilities include: Coordinating/supervising volunteers; training/program development; maintaining hospital service activities.

Gilat Planning and Research, April 1998 to July 1998

Independent contractor- Responsibilities include: Data Collection, Internet and database searches. Research and analysis. (Subject: Metro area Nursing Homes)

UNO Aviation Institute, October 1995 to December 1996

Graduate Research Assistant/ NASA Fellow - Responsibilities include: Data Collection, Internet and database searches, Using Multimedia Smart cart to create graphical presentations for the classroom, scanning, Preparation of Accreditation Report, Student Retention Plan, Teaching Assistant for three Undergraduate courses, and General office support service.

UNO College of Public Affairs and Community Service, July 1995 to October 1995

Graduate Research Assistant - Responsibilities include: Data collection and analysis, Drafting reports, Computer entry using Word Perfect 5.1 and UNOnet applications, Project planning and implementation, Community relations/service.

UNO Center for Public Affairs Research, Nebraska State Data Center, May 1994 to June 1995

Graduate Research Assistant - Responsibilities include: Data collection and analysis, Drafting reports, Computer entry & graphing using Lotus 1-2-3, Harvard Graphics, Word Perfect 5.1 and UNOnet applications, Project planning and implementation, Community relations/service.

Assistant to the Editor - Journal of the Community Development Society
Responsibilities include: File Management, and Manuscript review.

SG-UNO Council for Community and Legislative Relations, September 1994 to February 1995

Director - Responsibilities include: tracking legislation and public opinion, lobbying, policy analysis, preparing budget and internal operating procedures, arranging public events and press conferences, managing a three person staff and a budget of approximately \$4,500.00.

Cullan and Cullan / David J. Cullan & Associates, 1988 to 1994

Receptionist/Clerical - Responsibilities include: computer entry, correspondence, outlining depositions and working with sensitive and confidential material.

Senator J. James Exon (Omaha office), Summer 1992

Internship - Responsibilities include: assisting in constituent services, serving as support staff at public events, computer entry, typing, and miscellaneous clerical as need arose.

Extensive research on the Americans with Disabilities Act.

COMPUTER PROGRAMS:

Multimedia smart cart, Omnipage scanning software, Deskscan II scanning software, Windows 95, WordPerfect 5.1/6.0, Correl perfect suit, Windows 3.1, Netscape, Minitab for windows, First search, Power Point 4.0-7.1, Uno library databases, CD-ROM, Lotus 1-2-3, Harvard Graphics, Grand View, Quicken, UNOnet (CWIS/Genisys)

EDUCATION:

University of Nebraska at Omaha (1989 to 1996) (Fall 1997-Present)
 Ph.D. in Public Administration (application for Fall 1999 Pending)
 Masters in Political Science (Fall 1997- Present)
 Master of Public Administration (1996)
 Bachelor of Science (Political Science 1993)

ACADEMIC HONORS:

PI GAMMA MU, International Honor Society in the Social Sciences
 Member (Fall 1992 to Present)
 Vice President (1995 to 1996)
 President (1992-1993)
 Secretary (1991-1992)(1996-1997)
 NASA Fellow, Nebraska Space Grant Consortium
 Spring 1996
 Summer 1996
 Fall 1996
 OMICRON DELTA KAPPA, National Leadership Honor Society
 GOLDEN KEY, National Honor Society
 University of Nebraska at Omaha Vice Chancellor's Leadership Council
 Who's Who Among Students in American Universities and Colleges (1993, 1996)

RESEARCH:

Fixed Base Operation Survey: Management Characteristics
 By Professor James Crehan & Tracey Cullan
 Presented at the Nebraska Academy Of Sciences (April 26, 1996)

Aviation Institute Self Study Report for the Council on Aviation Accreditation UNOAI
 Report 97-1, The UNO Aviation Monograph Series By Dr. Henry R. Lehrer, Dr. Brent D.
 Bowen, Tracey Cullan, et al. Published: (February 1997) UNO Aviation Institute,
 University of Nebraska at Omaha.

COMMUNITY ACTIVITIES:

Safe Futures
 Volunteer Researcher May 1996 to August 1996
 City of Omaha, Human Relations Board
 Member (December 1993 to October 1996)
 Secretary (December 1993 to December 1995)
 University of Nebraska at Omaha Fencing Club
 Member (Spring 1991 to Fall 1995)
 President/Vice President (Spring 1992 to Fall 1995)
 Assistant Saber Instructor (Wheelchair Class, Spring 1994 to Fall 1995)
 National Qualifier (Saber 1991)
 University of Nebraska at Omaha Student Government
 Student Senate: Member (Fall 1993 to Fall 1994)
 Discrimination Hearing Panel: Member (1994)
 Adjudicatory Committee: Member (1994)

ABBREVIATED VITAE

KARISA KANE

Work Experience:

Graduate and Research Assistant, Aviation Institute, University of Nebraska at Omaha August, 1998-Present

- Teaching assistant for research methods in aviation and public administration, 1998, 1999
- Modified and helped to maintain course web page
- Prepared materials for each class session
- Designed web page and course curriculum for research methods, Spring, 1999
- Research assistant for Director of the Institute, Dr. Brent Bowen
- Current projects include developing an aviation safety rating , ranking U.S. airports on efficiency, and reliability factors of U.S. major air carrier data
- Prepared presentation slides for a co-authored paper
- Prepared and submitted manuscripts for publication
- Acted as an ambassador to promote the Aviation Institute at North High School, Omaha, NE
- Acted as an ambassador to promote the Aviation Institute at EAA Air Show in Oshkosh, WI

NASA Research Fellow, Aviation Institute, University of Nebraska at Omaha January, 1998-August, 1998

- Assisted with dissertation research activities
- Conducted extensive library research
- Acted as a liaison when contacting organizations
- Engaged in extensive proofreading and editing
- Prepared manuscripts for publication

Sales Associate Youngkers Department Store, Omaha, NE May, 1992- July, 1998

- Trained new associates
- Involved in customer service
- Merchandised displays
- Balanced cash drawers
- Assisted in loss prevention

Education:

Master of Public Administration Minor in Aviation Administration August, 1997-Present, University of Nebraska at Omaha

- Awarded NASA Fellow Scholarship, 1997
- Awarded Course Work Scholarship, 1997
- Awarded Who's Who Among Students in American Universities and Colleges, 1998
- Awarded NASA travel grant to attend UAA Aviation Policy Seminar in Washington, DC, 1999
- Presented on aviation security at UAA Policy Seminar, 1999
- Member of Alpha Eta Rho
- Member of Women in Aviation
- Attended Women in Aviation Conference in Denver, CO, 1998
- Attended Nebraska Academy of Sciences in Lincoln, NE, 1998
- Current Grade Point Average 3.833

Bachelor of Science, Geography
University of Nebraska at Omaha August, 1993-August, 1997

- Dean's List
- Member of Pi Gamma Mu
- Member of Gamma Theta Upsilon
- Member of Geography Club

- Secretary/Treasurer of Geography Club, 1997
- Assisted with the Nebraska State Geography Bee, 1996, 1997
- Attended AAG Conference in Greeley, CO, October, 1996

Publications/ Presentations

Bowen, B. D., Headley, D., & Kane, K. (1998, July). Enhancing global competitiveness: Benchmarking airline operational performance in highly regulated environments. Paper presented at the Air Transportation Research Group in Dublin, Ireland.

Kane, K. (1997). An examination of the Federal Aviation Administration's policy on child restraint devices on major U. S. carriers. Unpublished research project, University of Nebraska at Omaha.

ABBREVIATED VITAE**MARY SCHAFFART****Education**

University of Nebraska at Omaha Aviation Institute
 Bachelor of Science- Public Administration, December 1998
 Major: Aviation Administration, Cumulative GPA: 3.92 on 4.00 scale

Work Experience

UNO Aviation Institute, Omaha, NE
 NASA Nebraska Space Grant & EPSCoR Program Assistant, 1997-Present
 Complete assignments for Nebraska Space Grant Director and Coordinator
 Provide logistical support at the Space Grant Directors' Meeting
 Webmaster for the NASA Aeronautics Working Group website

NASA Nebraska Space Grant Consortium, Omaha, NE, Student Mentor, 1997
 Developed peer mentoring program
 Introduced NASA scholars to campus life
 Enhanced student professional skills

Toscana Enterprises, Eppley Airfield, Omaha, NE, Clerk, 1994-1997
 Consumer relations, including service to the flying public
 Formulated wholesale accounts
 Placed and received orders
 Utilized multi-lingual capabilities

Honors

UNO Regents Scholar
 Dean's List, each semester
 UNO Durham Scholar, 1997
 NASA Space Grant Consortium Scholar
 Alpha Lambda Delta Honorary
 Phi Eta Sigma Honorary
 Alpha Eta Rho National Scholar, 1997
 Phi Kappa Phi Scholastic Honorary
 1998 Southwest Airlines/UNOAI Scholar
 National Aeronautics Association, 1996-Present
 Who's Who Among American Colleges & Universities
 Omaha Optimist Club of Aviation, Student of the Year, 1998
 National Business Aircraft Association Scholar, 1998
 UNO 1998 Outstanding Student in Aviation Administration
 National Air Transportation Foundation, Pioneers of Flight Scholar, 1997
 Candi Chamberlin Kubeck Memorial Scholarship Recipient, 1998
 World Aerospace Education Organization, Student Delegate, Perth, Western
 Australia, 1998

Publications & Papers

Schaffart, M. (1998, December). *The NASA Nebraska Space Grant: A Quantitative and Qualitative Ten-Year Evaluation of Research Outcomes*. Omaha, NE: University of Nebraska at Omaha Aviation Institute, Honors Senior Thesis.

Bowen, B., Schaaf, M., & Schaffart, M. (1998, February). *Aeronautical and Aerospace Contributions to Rural Research and Education in Nebraska*. Nebraska Rural Research Conference. Lincoln, NE. February 1998.

Schaffart, M. & Bowen, B. (1997, December). *Benchmarking Library Capabilities of Non-engineering Aviation Graduate Programs*. Omaha, NE: University of Nebraska at Omaha Aviation Institute. 21 pps.

Grant Proposals & Reports

Bowen, B. & Schaffart, M. (1998, November). The 1999 Airline Quality Rating. Research proposal to the University of Nebraska at Omaha University Committee on Research for \$6000. Pending.

Schaaf, M., Bowen, B., & Schaffart, M. (1998, April). *The NASA Nebraska Space Grant Consortium Year Six Annual Report*. Submitted to NASA Headquarters through electronic reporting software. 1,080 pps.

Presentations

Schaffart, M. (1998, October 13). *NASA Nebraska Space Grant & EPSCoR Strategic Plan Report*. Semi-Annual NASA Nebraska Space Grant & EPSCoR Advisory Board Meeting. Strategic Air Command Museum, South Bend, NE.

Schaffart, M. & Bowen, B. (1997, December). *Benchmarking Library Capabilities of Non-engineering Aviation Graduate Programs*. Nebraska Academy of Sciences, Aeronautics and Space Science Section, Poster Presentation. Nebraska Wesleyan, Lincoln, NE. April 1998.

Activities & Affiliations

President Alpha Eta Rho, Upsilon Nu Omicron Chapter, 1997-1998
 Executive Assistant, Alpha Eta Rho UNO Chapter, 1996-1997
 UNO Aviation Institute Ambassador, 1996-1998
 American Institute of Aeronautics & Astronautics, 1997-Present
 Women in Aviation, International, 1996-Present
 Omicron Delta Kappa Leadership Society, 1997-Present
 UNO Honors Program, 1995-1998
 Boy Scouts of America, Aviation Explorers Volunteer
 Golden Key National Honor Society

ABBREVIATED VITAE

SCOTT VLASEK

WORK EXPERIENCE:

Aviation Institute, University of Nebraska at Omaha, May 1995 - Present

- Distance Education Coordinator-Curriculum development and web implementation of Internet-based courses
- Policy Design - Development of policies and procedures for the on-line program
- Distance Education Marketing Coordinator
- Computer/Network Administrator-Maintain Aviation Institute's computer systems, evaluate software and hardware, and Webmaster
- Instructor-Introduction to Aviation & Aerospace, Special Topics in General Aviation, Research Methods
- Golf Tournament Coordinator-Developed and coordinated all activity for the tournament including marketing material and correspondence.
- Additional Duties-Student peer advisor, ambassador coordinator, marketing team member, flight operations liaison, and special events coordinator.

Mutual of Omaha Corporate Flight Department Internship, January 1997 - May 1997

- Successfully interviewed and selected for competitive internship
- Duties include observing and participating in all aspects of a corporate flight department. Aspects include safety, training, scheduling, dispatch, budgeting, marketing, and flight operations on a Falcon 20.

EDUCATION:

University of Nebraska at Omaha, 1990 - 1998

- Master of Public Administration, Minor in Aviation Administration, May 1998
- Bachelor of General Studies, Aviation Studies Major, December 1995
Space Studies and Criminal Justice Minors

SKILLS:

Computing

- Applications

Corel Suite 8.0	Adobe Photoshop	Front Page 97
Office 97	Lotus 1-2-3	Power Point
Minitab	MS Works	World Wide Web
Corel Draw	Print Shop	
- Operating Systems

Windows 95	Windows NT	Windows 3.X
DOS	OS 2	Unix
- Coordinator - Systems analysis and evaluation, program design, and applications instructor.

Pilot Certifications

- Private Pilot - 200 hours single engine land; Cessna 150, 152, 172
- Current Class III Medical and Biennial Flight Review
- Human Factors and High Altitude Training at Offutt Air Force Base

AVIATION HONORS:

Aviation Institute Student of the Year 1995
 Aviation Institute Student Ambassador 1994 - 1995
 NASA Scholar & Fellow, 1995 - 1998

AVIATION ACTIVITIES:

Aircraft Owners & Pilots Association, 1993 - 1998
 Alpha Eta Rho Aviation Fraternity - President & Treasurer, 1995 - Present
 National Intercollegiate Flying Association co-captain, 1995 - 1997
 University Aviation Association, 1996 - 1997
 Aviation Explorer Volunteer 1997

COLLEGIATE HONORS & ACTIVITIES:

Who's Who Among Students in American Universities and Colleges, 1996
 Student Government, 1992 - 1998
 Deans List, 1995 & 1996
 Lambda Chi Alpha 1990 - 1994
 University Bands, 1990 - 1993

PUBLICATIONS/PRESENTATIONS:

Luedtke, J., & Vlasek, S. (1997, April). A study of women and minorities in collegiate aviation programs. Paper presented at the Nebraska Academy of Science, Lincoln, NE.

Lutte, R., & Vlasek, S. (1995, September). A study of research activity and safety concerns of the aviation industry. Paper presented at the University Aviation Association annual meeting, Las Vegas, NV.

Schaaf, M., Schaffart, M., Vlasek, S. (1998). Aerospace education outreach initiatives. Paper presented at the 1998 Great Lakes Aviation and Space conference, Purdue University, West Lafayette, IN.

Vlasek, S. (1998). Alternative to essential air service: What are the options for the state of Nebraska. Unpublished capstone project, University of Nebraska at Omaha, Omaha, NE.

ABBREVIATED VITAE**MICHAELA M. SCHAAF****ACADEMIC PREPARATION****University of Nebraska at Omaha**

In progress	Doctor of Philosophy, Public Administration Aviation Administration Specialization
Dec. 1996	Master of Science, Urban Studies Aviation Administration Minor, GPA 3.8
May 1995	Bachelor of General Studies, Aviation Studies Journalism and Criminal Justice Minors, GPA 3.4

PROFESSIONAL EXPERIENCE

1996-Present *Coordinator, Research and Special Programs*, Aviation Institute, University of Nebraska at Omaha. Professional and managerial duties associated with the NASA Nebraska Space Grant & EPSCoR programs, totaling more than \$4.5 million. Responsibilities include budgetary decisions, tracking budgets, program management, preparation of research and budget proposals, writing and coordinating grant proposals, and submission of annual reports to NASA. Contact with NASA Headquarters, faculty researchers, grants accounting, and sponsored projects offices at institutions statewide. Other administrative responsibilities include overseeing student workers and office management, teaching and research support functions, as well as conference planning.

RELATED EXPERIENCE

1995-1996 *Graduate Assistant*, Aviation Institute, University of Nebraska at Omaha. Grant manager and coordinator of the NASA Nebraska Space Grant Consortium. Duties included budgetary decisions, tracking budgets, program management, preparation of research and budget proposals, writing and coordinating grant proposals, and submission of annual reports to NASA. Other responsibilities included teaching and research support functions as well.

1993-1995 *Undergraduate Assistant*, Aviation Institute, University of Nebraska at Omaha. Published five newsletters per year and disseminated to over 500 individuals. Developed and maintained over thirty databases. Completed various office tasks including answering telephones, filing, and assisting the director and faculty on special projects. Designed an Operating Procedures Manual for the Aviation Institute.

1993 *Front Desk Coordinator*, Hangar One, Millard Airport. Omaha, Nebraska. Provided customer service at the sole fixed base operation on the field. Duties included writing invoices, scheduling aircraft and charter flights, filing maintenance records, and answering phones. Distributed billing statements to over 100 customers twice a month.

HONORS AND ACHIEVEMENTS

1997-1998 Outstanding Graduate Student, Public Administration, UNO
 1997 International Who's Who of Business Professionals
 1994-Present Omicron Delta Kappa, National Leadership Honorary Fraternity

- 1995-1996 NASA Nebraska Space Grant Consortium Graduate Fellowship Recipient
 1994 UNO Aviation Institute Student of the Year Scholarship
 1994 Who's Who Among Students at American Colleges and Universities

SELECTED PUBLICATIONS, PAPERS, AND ABSTRACTS

- Carrico, J., & Schaaf, M. (1998, April). *Aviation Security: An Annotated Bibliography of Responses to the Gore Commission* (The UNO Aviation Monograph Series 98-2). Omaha, NE: University of Nebraska at Omaha, Aviation Institute.
 Bowen, B., Schaaf, M., & Schaffart, M. (1998, February). *Aeronautical and Aerospace Contributions to Rural Research and Education in Nebraska*. Nebraska Rural Research Conference. Lincoln, NE. February 1998.
 Bowen, B., & Schaaf, M. (1998, February). Facilitating Student Involvement in NASA Research: The NASA Space Grant Aeronautics Example. T.L. Coleman, B. White, & S. Goodman (Eds.). *NASA University Research Centers: Technical Advances in Aeronautics, Space Sciences and Technology, Earth Systems Sciences, Global Hydrology, and Education*, 3 (pp. 960-972) Washington, DC: NASA Headquarters.
 Schaaf, M., Bilyeu, S., & Grandgenett, N. (1998, January-February). Blasting off to a brighter future. S. Bilyeu (Ed.). *NASA Technology Today*, 14-15.

SELECTED GRANT PROPOSALS AND REPORTS

- Bowen, B., et al. (1998, October). *The Nebraska Initiative for Aerospace Research and Industrial Development, Year 3*. Proposal to NASA EPSCoR for third year renewal of three year, \$3.5 million award. Funded in full.
 Schaaf, M., Bowen, B., & Schaffart, M. (1998, April). *The NASA Nebraska Space Grant Consortium Year Six Annual Report*. Submitted to NASA Headquarters through electronic reporting software. 1,080 pps.
 Schaaf, M., & Gleason, T. (1997, October). *Diversity in Aviation: The Harlem Airport, Illinois*. Seed research proposal to the NASA Nebraska Space Grant for \$1000. Funded in full.
 Bowen, B., & Schaaf, M. (1997, October). *The NASA Nebraska Space Grant Consortium Year Seven*. Proposal submitted to NASA Headquarters for \$428,178. Funded in full.
 Bowen, B., et al. (1997, October). *The Nebraska Initiative for Aerospace Research and Industrial Development, Year 2*. Proposal to NASA EPSCoR for second year renewal of three year, \$3.5 million award. Funded in full.
 Bowen, B., & Schaaf, M. (1995, September). *The NASA Nebraska Space Grant Consortium Year Five*. Proposal submitted to NASA Headquarters for \$366,000. 20 pps. Funded in full.

PRESENTATIONS

- Bowen, B., & Schaaf, M. (1998, February 23). *Facilitating Student Involvement in NASA Research: The NASA Space Grant Aeronautics Example*. NASA University Research Centers Technical Conference Poster Session. Huntsville, AL.
 Schaaf, M. (1997, December 1). *NASA Nebraska EPSCoR Report*. 13th Annual National Science Foundation EPSCoR Conference. New Orleans, LA.
 Schaaf, M. (1997, November 6). *Aeronautics Working Group Report*. Western Region Space Grant Meeting. Coeur d' Alene, ID.
 Schaaf, M. (1997, November 6). *Chair, Aeronautics Working Group Session*. Western Region Space Grant Meeting. Coeur d' Alene, ID.
 Schaaf, M. (1997, October 31). *NASA Nebraska Space Grant & EPSCoR Program Report*. Semi-Annual NASA Nebraska Space Grant & EPSCoR Advisory Board Meeting. Mahoney State Park, NE.
 Schaaf, M. (1997, October 17). *Establishing Evaluation Criteria and Benchmarks For Best Practices in Aeronautics Research*. Space Grant Aeronautics Working Group Conference. Lancaster, CA.

HIGHER EDUCATION SERVICE

Series Editor, UNO Aviation Institute Monograph Series
Final Copy Editor, Journal of Air Transportation World Wide
Honors Coordinator, Public Administration Department
Coordinator, Aviation Institute Recruitment & Retention Team
Coordinator, Aviation Institute Honors Convocation
Presenter, Grant Writing Seminar
Presenter, Resume and Cover Letter Workshop, Alpha Eta Rho Fraternity

FLIGHT EXPERIENCE

Current Private Pilot Total Time: 90 hours
Basic Ground Instructor

ABBREVIATED VITA

SARA J. WOODS

Education: B.A., University of Nebraska at Omaha, 1981
Major: Psychology
GPA: 3.50

M. P.A., University of Nebraska at Omaha, 1997
Specialization: General Administration, emphasis on program development
GPA: 4.00

Professional Experience:

- 1995 - present** **Community Service Associate, College of Public Affairs and Community Service (CPACS), University of Nebraska at Omaha, Omaha, NE 68182-0127**
Responsible for the administration of a number of outreach and strategic planning grants that focus on youth violence prevention, neighborhood development, and affordable housing. Coordinate planning and grant-related activities with faculty, staff, students, community representatives and government agencies; disseminate information through newsletters and websites, supervise internal accounting processes, collaborate with university partners and subcontractors, and compile reports. Develop major grant proposals to support the outreach and research goals of the college.
- 1992-present** **Free-lance Grant Writing and Program Development Consultant**
Manage all aspects of the grant application process, including identification of potential public and private funding sources, program planning and design, development of proposal narrative and related addenda, formulation and construction of budget, completion of required forms, communication with funding agencies, assembly of final proposal, and overall quality control to assure compliance with funding agency guidelines and stated priorities.
- 1990-92** **Program Development Specialist, UNO Office of International Studies and Programs (IS&P)**
Primary responsibility was the design and submission of IS&P's grant proposals for federally and privately funded programs. Duties included program planning, development of narrative, budget design, compilation of required forms and supporting materials, identification and/or recruitment of necessary personnel, coordination with other university departments and funding agencies, and final proposal assembly.
- 1990** **Immigration and Exchange Visitor Advisor, UNO Office of International Studies and Programs (part-time position)**
Served as advisor for international faculty, scholars, and students. Acted as liaison between IS&P and Immigration and Naturalization Service (INS). Led cross-cultural classes for international students.
- 1986-88** **Admissions Counselor, UNO Office of Admissions**
Coordinated freshman admissions and international student admissions programs, with responsibilities including evaluation of credentials and determination of admissibility, public presentations, and individual student counseling.

National Aeronautics and
Space Administration
Headquarters
Washington, DC 20546-0001



FE

Reply to Attn of:

TO: NASA EPSCoR Directors
FROM: Manager, NASA Space Grant/EPSCoR Programs
SUBJECT: EPSCoR Funding, FY1999

Enclosure

19 January 1999

Dear Colleagues,

Based on discussions with Center University Affairs Officers and several NASA Space Grant/EPSCoR Directors, a NASA EPSCoR funding plan has been developed for Fiscal Year 1999. As you are probably now aware, the NASA EPSCoR Program has been funded for \$10 million in FY99, representing a doubling of the budget from previous years. We anticipate that the next full NASA EPSCoR competition will be in 2001 with a program start in 2002. During the three year interim period of FY1999-2001 consortia will be eligible for NASA EPSCoR funds based on whether the consortium is a Round 1 NASA EPSCoR program (MT, AR, PR, AL, LA, and KY), a Round 2 program (NE, OK, SC, and KS), or one of the currently unfunded programs (CT, ID, ME, MS, ND, NV, SD, VT, WV, and WY). The FY99 funding will consist of several parts -

1. extension of NASA EPSCoR funding for Round 1 consortia at \$400K;
2. continuation of existing grants at \$500K for Round 2 consortia; and
3. Preparation Grants for all 20 NASA EPSCoR-eligible consortia.

Preparation Grants are intended to support research activities within each consortium to prepare for the 2001 NASA EPSCoR competition. Proposals should clearly indicate alignment with the NASA and Enterprise Strategic Plans. More detailed guidelines are outlined below.

Based on a short proposal, consortia will be eligible for FY1999 NASA EPSCoR funds as follows

EPSCoR Round 1 consortia (MT, AR, PR, AL, LA, and KY)

- Extension of existing EPSCoR grant, \$400K
- Preparation Grant, \$225K

EPSCoR Round 2 consortia (NE, OK, SC, and KS)

- Continuation of existing EPSCoR grant, \$500K
- Preparation Grant, \$225K

Currently unfunded programs (CT, ID, ME, MS, ND, NV, SD, VT, WV, and WY)

- Preparation Grant, \$225K

Preparation Grant Proposal Guidelines

As you are aware, the NASA EPSCoR program is being restructured and will present significant changes in 2001. To be selected each consortium must demonstrate direct ties to NASA Centers and Enterprises. It is therefore required that Preparation Grant funds be used to initiate contacts, promote collaborative research programs with the Centers and Enterprises, and begin research activities in areas of strategic importance to the Agency.

We strongly urge that the Consortium Space Grant/EPSCoR Director contact the University Affairs Officers at the NASA Center(s) best aligned with the relevant research areas to initiate discussions of possible collaborative research activities. Examples of possible programs include

- summer visits to a NASA center by state researchers and students;
- establishing a shared Post-doc program with the Center wherein a Post-doc will spend 4-6 months at a Center, then return to the University for 4-6 months;
- visits to NASA Centers to meet with researchers, discuss current consortium research activities and expertise, and plans for future collaborations.

The use of Preparation Grant funds will therefore be somewhat restricted. In particular, Preparation Grant funds cannot be used for

- Computers and Equipment (Capital Outlay)
- Foreign Travel

Acceptable uses of the Preparation Grants includes

- salary for university student and faculty researchers (including student fellowships as outlined below) in support of research programs with very strong, immediate, and well defined ties to NASA Centers and Enterprises;
- program management and operating expenses;
- travel for university researchers and/or graduate students to visit a NASA Center for purposes of establishing and/or conducting research activities with NASA researchers.

Current Center Research Areas

For an overview of research areas in which each Center is currently involved, please refer to:

- the 1999 Graduate Student Researchers Program guide at
http://ednet.gsfc.nasa.gov/gsrp/1999/solicitation/index_register.html
- the NRC Resident Research Associates Postdoctoral Research opportunities list
<http://rap.nas.edu>
- the homepage for each Center, accessible through
<http://hq.nasa.gov>

Matching

All interim funds provided must be matched in full except for those funds used for student fellowships.

Proposal Preparation

Round 1 Consortia: The 1 year Continuation Grant proposal must include a cover page, signatures of the consortium NASA Space Grant/EPSCoR Director and the lead institution Chief Financial Officer, and should be stapled (no binders). It should outline the research planned, and must include a detailed budget with source and amount of matching funds.

All Consortia: Consortia planning to participate in the 1 year Preparation Grant program must prepare a proposal for the \$225K Award. The Preparation Grant proposal, including cover page, signatures of both the Consortium Space Grant/EPSCoR Director and the Chief Financial Officer of the lead institution, budget (including source and amount of matching funds), and a brief description of how the Preparation Grant funds will be used to foster contacts and collaborative research ties with the Centers and Enterprises, should be no longer than ten pages (stapled, no binders). All proposals should clearly indicate with which NASA Center/Centers the proposed research activities will align. Required certifications are not included in the ten page limit.

Proposals must contain the certifications required by 14 CFR 1265:
Certification for Debarment, Suspension and other Responsibility Matters,
Certification Regarding Lobbying, and Assurance for Nondiscrimination

Compliance. These forms are available on URL

<http://genesis.gsfc.nasa.gov/grants/grants.htm>

under Grant Forms.

The NASA Grants and Cooperative Agreement handbook, Sections A and B, located at URL

<http://ec.msfc.nasa.gov/hq/grcover.htm>

provides a budget format and additional information on uniform administrative requirements for grants and agreements with institutions of higher education.

Please note that there will be no extensions granted on the Preparation Grants. It is advised that all monies be costed as soon as practical so as to protect the funding and to minimize NASA's administrative burden.

Fellowships

At least \$25,000 and no more than \$50,000 of the Preparation Grant funds must be used for fellowships. Each Preparation Grant proposal must include one or more fellowships that incorporate a period of residence at a NASA Center for not less than 10 weeks during the year. Acceptable undergraduate, graduate, or post-doctoral fellowships include:

- 1) funding of research assistants (no less than 20 hours per week) on work supporting the proposed collaborative research activities;
- 2) support for students and/or post-doctoral fellows working on projects supporting the proposed collaborative research activities;
- 3) stipends to support long-term visits of undergraduate or graduate students, or post-doctoral fellows to a NASA Center

Funds used for fellowships and travel support for students and/or post-doctoral fellows to/from NASA Centers are exempt from the matching requirement.

Proposal Submission

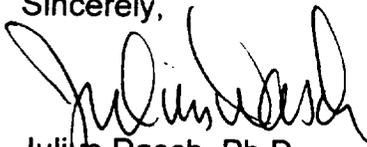
Five copies of each proposal (Continuation Grant and Preparation Grant), one with original signatures and four copies, should be submitted to

Dr. David H. Atkinson, Ph.D.
Education Division, Code FE
NASA Headquarters
Washington, DC 20546-0001

The deadline for the Continuation Grants is no less than 60 days prior to the end date of the current NASA EPSCoR funding. Proposals for the Preparation Grants are due by 5:00 P.M. on Friday, March 12.

Over the past six years NASA EPSCoR has experienced the growing pains of a new program. We are working hard to restructure the NASA EPSCoR program in a manner that will provide maximum benefit and support to the states as well as prove to be an asset to the Enterprises and Agency. We are confident that the interim period of 1999, 2000, and 2001 will provide the state consortia the opportunity to initiate meaningful contacts and to develop ongoing collaborations with the Centers and Enterprises.

Sincerely,



Julius Dasch, Ph.D.
Manager, NASA Space Grant/EPSCoR Program
Education Division
Office of Human Resources and Education

EPSCoR Directors:

Dr. Brent D. Bowen
Dr. Mitchell W. Colgan
Dr. David R. Downing
Dr. Victoria Duca-Snowden
Dr. Sherry O. Falwell
Dr. Rick Gill
Dr. John C. Gregory
Dr. Richard Hackney
Dr. William A. Hiscock
Dr. M. Keith Hudson
Dr. Majid Jaraiedi
Dr. Paul E. Johnson
Dr. Tony S. Keller
Dr. Juan G. Gonzalez Lagoa
Dr. Lee Townsend
Dr. Terry Shehata
Dr. Peter Sukanek
Dr. James V. Taranik
Dr. John P. Wefel
Dr. Charles A. Wood

UAOs:

Mr. Greg Buckingham (KSC)
Dr. Jim Dowdy (MSFC)
Dr. Kajal Gupta (DFRC)
Mr. Roger Hathaway (LaRC)
Ms. Carol Hix (JPL)
Dr. Armond Joyce (SSC)
Mr. Geoff Lee (ARC)
Dr. Francis Montegani (LeRC)
Dr. Donn Sickorez (JSC)
Dr. Gerald Soffen (GSFC)



Budget Summary: NASA EPSCoR Preparation Grant

	NASA	UNO	Total Other Cost	Total Share Grant	Total Grant Amount
1. Direct Labor					
Salaries (benefits eligible)	77971	19377		19377	97348
Benefits	17154	4263		4263	21417
2. Other Direct Costs					
Subcontracts	56807	0	80547	80547	137354
Consultants	2819	0		0	2819
Supplies	7500	0		0	7500
Travel	14160	1785		1785	15945
Other	48589	0		0	48589
3. Facilities and Administrative Costs	0	86659		86659	86659
4. Total Estimated Costs	225000	112084	80547	192631	417631

National Aeronautics and
Space Administration
Headquarters
Washington, DC 20546-0001



APR 17 1999

FE

Reply to Attn of:

Dr. Brent D. Bowen, Director
Nebraska Space Grant/NASA EPSCoR
Aviation Institute
Allwine Hall 422
6001 Dodge Street
Omaha, NE 68182-0406

Dear Dr. Bowen,

After a thorough review, it is my pleasure to inform you that your proposal for the NASA EPSCoR Preparation Grant program has been approved for funding in the amount of \$225,000 for the period of 5/15/99 through 5/14/00. I extend my congratulations to you and your colleagues throughout the state who helped develop your excellent proposal.

As you know, the ultimate purpose of the Preparation Grant program is to develop and nurture strong research ties between the State and NASA, particularly in areas of high priority to the Field Centers and the Strategic Enterprises, and essential to the overall mission of NASA. We anticipate that the activities you propose will result in such ties.

Sincerely,

A handwritten signature in black ink, appearing to read "Julius Dasch".

E. Julius Dasch
Program Manager
NASA Space Grant/EPSCoR Program

